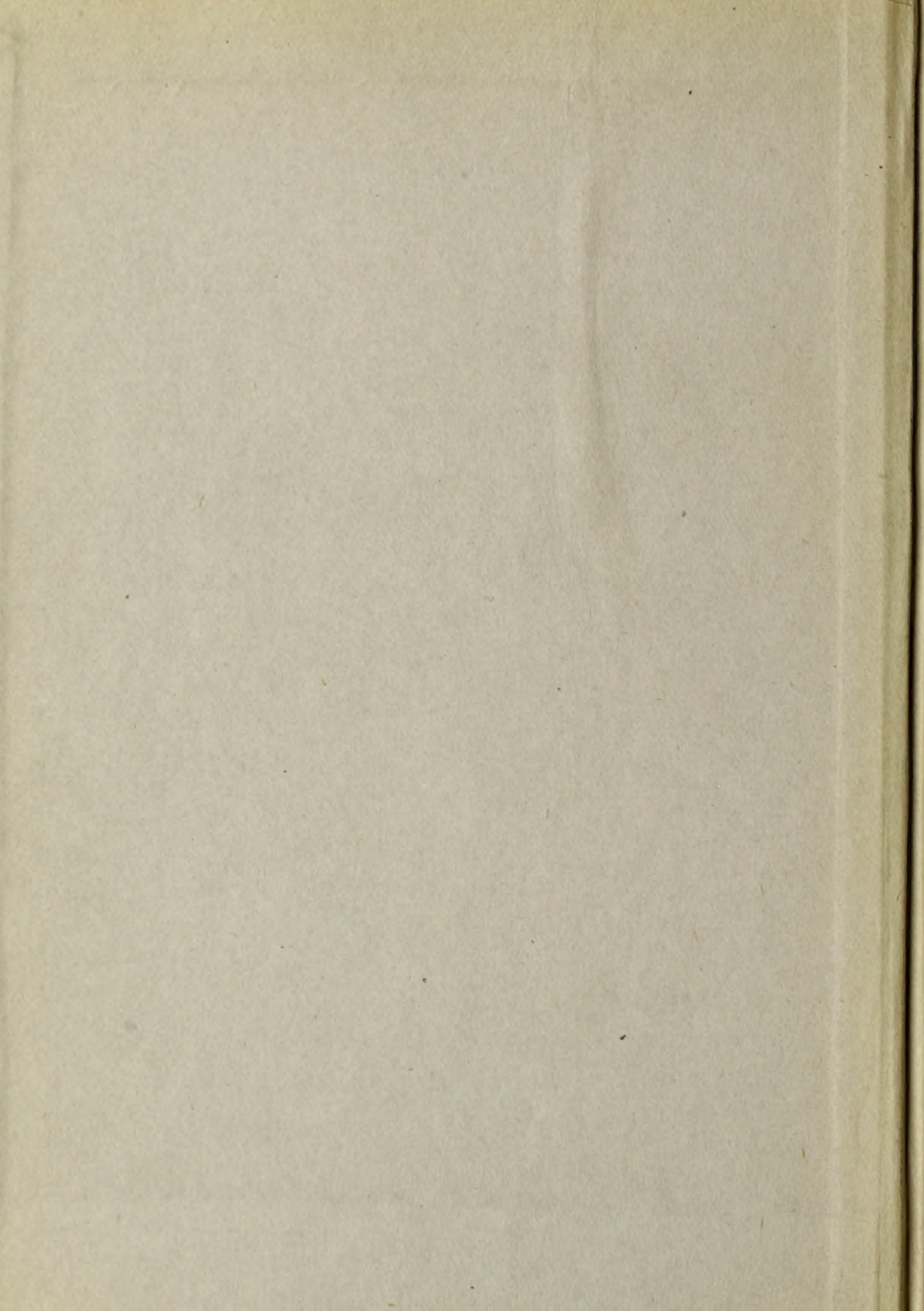




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THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

152^a

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March 1, 1930

Number 1

BUREAU OF ENTOMOLOGY
UNITED STATES
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THE STATE ENTOMOLOGICAL
AGENCIES COOPERATING

152 a

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INSECT PEST SURVEY BULLETIN

Vol. 10

March 1, 1930

No. 1

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR JANUARY AND FEBRUARY, 1930.

In introducing Volume 10 of the Insect Pest Survey Bulletin, we are gratified to announce that the number of states that have organized State surveys to collaborate with the Federal Insect Pest Survey has increased at approximately the rate of one State a year since the Survey finished its inaugural year. We are now associated with active State Surveys in Illinois, Iowa, Minnesota, Mississippi, Montana, North Carolina, Oregon, and Wisconsin, with prospects that several States will organize Surveys during the coming year.

In general throughout the eastern deciduous fruit belt, aphid eggs do not seem to be abnormally abundant, although the apple grain aphid is reported unusually numerous in parts of Missouri.

Mortality of the codling moth in Indiana and Illinois was extremely high, in many places all larvae having been killed. The insect passed the winter more successfully from Missouri southward.

The European red mite was rediscovered in Utah last August after a lapse of five years since it was last observed in that State.

The San Jose scale seems to be slightly on the increase in the Middle Atlantic States. This condition extends throughout the southern part of the East Central States while in the northern part of these States winter mortality has been high. North of St. Louis, in Illinois, only 2 per cent of the scale survived. West of the Mississippi the scale seems to be increasing.

The oriental fruit moth suffered very high mortality in northern Illinois and Indiana, and even in the southern part of these States winter killing of the larvae was severe.

The plum curculio has not yet suffered any severe setback by winter conditions in the Georgia fruit belt. Unusually large numbers went into hibernation throughout the entire eastern part of the United States.

The spiraea aphid is more abundant in Florida this year than it has been for several years. Citrus growth is retarded, so there is prospect of damage from the aphid this spring.

The vegetable weevil has already appeared in the fields in Mississippi, the first larvae having been found in Lawrence County on January 25, where they were reported as doing serious injury to turnips, and during the first half of February much damage to young plants in hot-beds was reported from many points. Similar trouble is being reported from parts of Louisiana.

The turnip aphid was unusually abundant in the Norfolk trucking district of Virginia late in February. Considerable damage by this insect was also reported from near Phoenix, Ariz.

The carrot rust fly has been reported for the second time in Michigan, larvae having been found infesting carrots in storage at Alpena this spring. The only other record for this State was made many years ago at Sault Sainte Marie.

The sugarcane borer suffered very heavy winter mortality in Louisiana.

The cypress bark scale (Ehrhornia cupressi Ehrh.) which was first found attacking Monterey cypress in the vicinity of Covina, Calif., last year, has been found during the winter months at eight additional points in this general district. Infestations are very heavy and individual trees are often killed. This insect is also known from the San Francisco Bay district, where it has been serious for a number of years.

An outbreak of the rat mite developed in a steam laundry in Jackson, Miss.

In Mississippi the Argentine ant continues to be one of the most annoying and injurious insect pests occurring in that State. Recently it has been discovered at Spartanburg, S. Car.

GENERAL FEEDERS

WIREWORMS. (Elateridae)

- Florida J. R. Watson (February 18): Wireworms are moderately abundant.
- Mississippi R. W. Harned and assistants (February 22): We have received reports of damage to sweet potatoes from several localities.
- California E. O. Essig (February 24): Wireworms are moderately abundant. They have been reported from many sections this winter.

WHITE GRUBS (Phyllophaga spp.)

- Ohio J. S. Houser (February 16): We expect considerable damage this year.
- Indiana J. J. Davis (February 24): White grubs were abundant in sod in 1927 and beetles were numerous in 1929 in Starke County. The grubs will doubtless be abundant and destructive in northwestern Indiana in 1930.
- Iowa C. J. Drake (February 25): Brood A is due to appear this year.
- Texas F. L. Thomas (February 25): White grubs are moderately abundant at College Station.

JAPANESE BEETLE (Popillia japonica Newm.)

- General U. S. Dept. Agr. Press Release (February 24): The Japanese beetle quarantine regulations have been revised, effective March 1, 1930.

The most important changes are the extension of the regulated area to include one county in Massachusetts as well as certain new territory in Connecticut, New York, Pennsylvania, Maryland, Delaware, and Virginia, and the division of the regulated area into generally and lightly infested areas.

Restrictions on the interstate movement of farm products will apply to the generally infested area but will not affect the movement of farm products from the lightly infested areas. Regulations governing the interstate shipment of nursery and ornamental stock, and of sand, soil, earth, peat, compost, and manure, will apply to shipments from the generally infested area to the lightly infested areas as well as to shipments from either to points entirely outside the regulated areas.

ASIATIC "BEETLE" (Anomala orientalis Waterh.)
ASIATIC GARDEN BEETLE (Aserica castanea Arrow)

General

U. S. Dept Agr. Press Release (February 21): As a result of the observations of the past year, the Department of Agriculture has reached the conclusion that a continuation of Federal restrictions on the interstate movement of nursery products and soil, to prevent the spread of these insects, is not justified by the information at hand. In placing the quarantine a year ago, the department felt that dissemination should be prevented until the significance of species could be weighed more carefully and further observations made. The past year's work has indicated that their potential danger to the United States does not justify the expenses of quarantine administration and the losses resulting from the imposition of restrictions.

CUTWORMS (Noctuidae)

Florida

J. R. Watson (February 18): Cutworms are moderately abundant.

Mississippi

R. W. Harned and assistants (February 22): A few cutworms have been observed in Monroe and Tate Counties. Agrotis ypsilon Rott. is moderately abundant in the vicinity of Laurel, where it is attacking cabbage, peas, and other garden products.

Hawaii

D. T. Fullaway (1929): The armyworm Spodoptera mauritia Boisd. has been scarce since the introduction of natural enemies, but the true "pokos" (cutworms), which hide in the ground during the day and come forth at night to feed, have been unusually destructive this year on the mauka ranch lands of Hawaii, according to the reports of Mr. A. W. Carter, manager of the Parker Ranch. The worst drought experienced in thirty years was reported at the same time.

O. H. Swezey (1929): Armyworms (Aletia unipuncta Haw. and Spodoptera mauritia Boisd.). There were less than the usual number of outbreaks of armyworms in cane fields this year. Those that came under observation were soon controlled by the several valuable introduced parasites. In one or two instances poisoning was resorted to.

CEREAL AND FORAGE CROP INSECTS

WHEAT

LESSIAN FLY (Phytophaga destructor Say)

Ohio

J. S. Mouser (February 16): Only in southwestern Ohio is the lessian fly menacing.

Iowa C. J. Drake (February 25): The Hessian fly has been observed in southern and southeastern Iowa.

Missouri L. Haseman (February 20): Surveys to date indicate the following infestations:

County	<u>Minimum</u> <u>Per cent</u>	<u>Maximum</u> <u>Per cent</u>
Buchanan	1.4	45.9
Butler.....	0.0	2.0
Gasconade.....	0.0	0.0
Jackson.....	0.0	1.0
Johnson.....	3.3	41.7
Lincoln.....	2.8	92.3
Livingston.....	7.7	100
Maries.....	1.7	66.7
Moniteau.....	1.0	81.8
Oregon.....	0.0	0.0
Osage.....	0.0	0.0
Pike.....	10.0	14.0
Ripley.....	0.0	2.1
Saline.....	10.0	47.0
Scott.....	3.8	5.9
St. Charles.....	1.5	57.7

K. C. Sullivan (February 20): The Hessian fly is moderately abundant in northern Missouri.

Kansas R. L. Parker (February 22): The Hessian fly is moderately abundant in Fredonia, Wilson, Home, and Marshall Counties, and fields are being plowed under.

CHINCH BUG (Blissus leucooaterus Say)

Florida J. R. Watson (February 19): The chinch bug was somewhat noticeable on St. Augustine grass during December. Since then it has been less noticeable, as we have been having more cloudy and rainy weather than usual.

Missouri K. C. Sullivan (February 20): The chinch bug is scattered and scarce.

Kansas R. L. Parker (February 22): The chinch bug is scarce. The weather has been unfavorable for past two years.

CORN

CORN EAR WORM (Heliothis obsoleta Fab.)

- Florida J. R. Watson (February 18): The corn ear worm is scarce.
- Mississippi L. J. Goodgame (February 22): Adults are moderately abundant in Monroe County.

ALFALFA AND CLOVER

PEA APHID (Illinoia nisi Kalt.)

- Virginia G. E. Gould (February 20): The pea aphid is overwintering on alfalfa, crimson clover, and vetch at Norfolk.
- Arizona O. L. Barnes (February 21): These insects were appearing in considerable numbers in scattered areas in an alfalfa field near Chandler, February 18-19, and also swept from alfalfa in fields located near Tempe and Phoenix. The first half of February was unusually warm, and the aphids seem to be more numerous than last year on this date.

COWPEA APHID (Aphis medicaginis Koch)

- Arizona O. L. Barnes (February 21): Aphis medicaginis has been taken on Melilotus at Chandler, Tempe, and Phoenix. Rather abundant in one field near Tempe, the upper portions of the stems being completely covered by the aphids.

ALFALFA CATERPILLAR (Eurymus eurytheme Bdv.)

- Arizona O. L. Barnes (February 21): Several adults observed in an alfalfa field near Phoenix.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

- Arkansas D. Isely (February 22): Specimens have been received from Marion County. They are reported to be causing damage to alfalfa.

CLOVER HEAD WEEVIL (Tychius picirostris Fabr.)

- Washington Wm. W. Baker (January 4): One specimen swept from clover heads at Puyallup sent i to Washington, D. C., was determined by Mr. L. L. Buchanan. Later one specimen was sifted from moss near a patch of sod in which clover is growing.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Arizona C. L. Barnes (February 21): Adults were taken in small numbers on alfalfa at Chandler, Tempe, and Phoenix, on February 18.

F R U I T I N S E C T S

APPLE

APHIDS (Aphidae)

New Jersey T. J. Headlee (February 18): Apple aphid eggs are abundant.

Pennsylvania H. E. Hodgkiss (February 20): In general aphid eggs are comparatively few in numbers.

West Virginia L. M. Peairs (February 17): The fruit aphids are moderately abundant in Morgantown and Martinsburg (species not determined).

Virginia P. J. Chapman (February 20): The eggs of fruit aphids are scarce at Norfolk so far this season.

 W. S. Hough (February 20): The fruit aphids are moderately abundant; eggs not nearly so abundant as last winter, in northern Virginia.

Ohio J. S. Houser (February 16): Overwintering eggs scarce this winter.

Missouri L. Haseman (February 24): Eggs of Rhopalosiphum prunifoliae Fitch are very abundant at Columbia; much more abundant than usual.

CODLING MOTH (Carpocapsa pomonella L.)

Indiana J. J. Davis (February 24): The sudden severe cold spell in January produced high winter mortality of many insects. The codling moth had a very high mortality, in some places 100 per cent, where exposed above ground.

Illinois W. P. Flint (February 22): Codling moth larvae, carried in a screened insectary inside a tight wooden container in the insectary and in turn protected by glass containers and by corrugated paper in which the cocoons were spun, showed 50 per cent mortality. In western Illinois Mr. J. M. Bigger reports 81 per cent mortality in codling moth larvae in cages on the trunks of trees. Larvae under bands seem to have suffered less.

S. C. Chandler (February 20): In southern Illinois the codling moth showed 58 per cent winter mortality in cages on trees.

Missouri

L. Haseman (February 24): At Columbia, with a temperature of 16° F., there was 20 per cent mortality, and at Neosho and Merionville, where temperature was as low as 29° F., mortality varied, but was high.

K. C. Sullivan (February 20): The codling moth is moderately abundant.

Kansas

R. L. Parker (February 22): The codling moth is moderately abundant over south-central Kansas. It is also present along the Missouri River in the northeast.

Texas

F. L. Thomas (January 20): Reports from Clyde and Callahan Counties indicate that the fruit territory is heavily infested.

Oregon

D. C. Mote and B. G. Thompson (February 19): Larvae survived the winter beneath bands on apple trees.

California

E. O. Essig (February 24): Hibernating larvae are moderately abundant.

FALL CANKER WORM (Alsophila pometaria Harr.)

New York

W. Moore (February 25): Recently I made an exact count of this insect and found on eight maple trees (one a hard maple and the balance soft maple) from 200 to 835 females per tree, the average number being 474. The size of the tree had little to do with the number, as the greatest number was present on a soft maple very near to the woods, while the smallest number was on a maple standing on the far side of the house from the woods. These numbers are probably smaller than is actually the case, since undoubtedly many of the females have been washed away between November and the present time.

SPRING CANKER WORM (Paleacrita vernata Peck)

Kansas

R. L. Parker (February 22): Emergence of the spring canker worm is just beginning in eastern Kansas.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Virginia

P. J. Chapman (February 20): There were the usual number of egg masses of the eastern tent caterpillar at Norfolk.

LEAF CRUMPLER (Mineola indigenella Zell.)

Texas

F. L. Thomas (February 19): This insect is common in the vicinity of Houston and Beaumont.

LEAFHOPPERS (Cicadellidae)

- Missouri K. C. Sullivan (February 20): Apple leafhoppers are moderately abundant over the State.
- Kansas R. L. Parker (February 22): Apple leafhoppers over the eastern third of Kansas are moderately abundant. Warm weather brought them from hibernation.

EUROPEAN RED MITE (Paratetranychus pilosus Can. & Fanz.)

- New Jersey T. J. Headlee (February 18): The European red mite is moderately abundant.
- Pennsylvania E. E. Hodgkiss (February 20): Infestation by eggs of the red spider is somewhat "spotted," although in the main commercial apple section the eggs are abundant enough to cause considerable comment.
- Utah G. F. Knowlton (February 8): This insect was collected on one rose, in north Logan during the spring of 1924, and determined by Mr. H. E. Ewing. This species has not again been collected in the Logan area since this first record, but Dr. H. J. Pack records it in his notes as occurring on peaches at Magna, August 26, 1929, the adults being abundant.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- New York C. R. Crosby (February 26): Generally more abundant than for several years.
- Pennsylvania H. E. Hodgkiss (February 20): The San Jose scale in the Cumberland Valley region is rather abundant and appears not to have been killed out by the winter weather, which has been about normal.
- West Virginia L. M. Peairs (February 17): This insect is more abundant than usual.
- Virginia W. S. Hough (February 20): The San Jose scale is moderately abundant in northern Virginia.
- P. J. Chapman (February 20): The San Jose scale is serious in home orchards in Norfolk, on apple and peach.
- Georgia O. I. Snapp (January 15): The average percentage of scale alive on this date was 84.68. The minimum temperature recorded during the winter to date is 18.9° F. Evidently there has been no mortality of the San Jose scale from low temperature in this locality (Fort Valley) to date.
- C. H. Alden (February): The San Jose scale is moderately abundant at Albany, in neglected orchards; also moderately abundant at Thomaston, scarce in Cornelia.

- Florida J. P. Watson (February 18): The San Jose scale is moderately abundant.
- Ohio E. W. Mendenhall (February 19): This insect is quite abundant on apple and pear trees on private properties in Archbold and Fulton Counties.
- Indiana R. F. Sazama (February 12): Counts show a mortality of 32.9 per cent, which is normal for this region. The trees from which the trigs were taken have been very seriously injured by the extremely low temperatures experienced this winter. The lowest temperature recorded was -20° F. Apparently the scale is able to withstand at certain times temperatures fatal to peach trees.
- Illinois W. P. Flint (February 22): Recent examinations of the San Jose scale to note the effect of the extremely cold weather of January on the hibernating scales have shown that in the section of the State north of a line drawn from St. Louis to Centralia less than 2 per cent of the San Jose scale are alive. The percentage of live scales increases gradually from this point on south. In the Ashley-Centralia district from 2 to 4 per cent of the scales are alive according to Mr. Chandler's counts, and 16 per cent of the scales are alive at Carbondale and 40 per cent alive in the extreme southern peach-growing districts. In that section of the State, where less than 2 per cent of the scales have survived, it is doubtful if a dormant scale spray will be necessary.
- Kentucky W. A. Price (February 22): The San Jose scale is moderately abundant over the state.
- Wisconsin E. L. Chambers (February 27): The San Jose scale has evidently come through this much of the winter without serious loss.
- Iowa C. J. Drake (February 25): The San Jose scale is increasing and spreading in southeastern Iowa.
- Missouri K. C. Sullivan (February 20): The San Jose scale is very abundant. A high percentage survived the winter.
- L. Haseman (February 24): Scarce at Columbia; with 16° F. temperature, mortality was about 80 per cent.
- Kansas R. L. Parker (February 22): The San Jose scale is moderately abundant in eastern Kansas, or in the fruit belt. Worst in southeast Kansas.
- Kansas O. I. Snapp (February 5): The average percentage of scale alive on a number of limbs from a peach orchard at De Queen

was found to be 21.8. The heavy mortality is attributed to low temperatures. A minimum of -5° F. was recorded at one time before the scales were counted, and at several other times the minimum was near the zero mark.

- Alabama J. M. Robinson (February 27): The San Jose scale is moderately abundant at Auburn and Talladega.
- Mississippi R. W. Harned and assistants (February 22): This insect has been reported as moderately abundant from over most of the State and very abundant from scattered localities.
- Arizona O. L. Barnes (February 21): The San Jose scale is scarce; it was observed on rose bushes in Phoenix November 7, 1929.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

- Ohio E. W. Mendenhall (February 20): The soft maples in North Dayton, planted along the street are badly infested.
- Kentucky W. A. Price (February 22): The oyster-shell scale is moderately abundant generally over the State.
- Iowa C. J. Drake (February 25): The oyster-shell scale is common.
- Missouri K. C. Sullivan (February 20): The oyster-shell scale is scarce in isolated sections.
- Wisconsin E. L. Chambers (February 27): The oyster-shell scale has evidently come through this much of the winter without serious loss.

SCURFY SCALE (Chionaspis furfura Fitch)

- West Virginia L. M. Peairs (February 17): The scurfy scale is very abundant in Martinsburg in poorly sprayed orchards.

PEAR

PEAR PSYLLA (Psyllia pyricola Foerst.)

- New York C. R. Crosby (February 26): During the past week of unseasonably warm weather the adults have been found in abundance on the twigs in many parts of the Hudson Valley.

QUINCE

PEAR BORER (Synanthedon pyri Harr.)

- Mississippi R. W. Harned (February 24): Specimens of the apple crotch

borer, Aegeria pyri, found on a quince tree were sent to this office from Kossuth in Alcorn County on January 16, 1930. (Det. by J. M. Langston.)

PEACH

PEACH BORER (Aegeria exitiosa Say)

- West Virginia L. M. Peairs (February 17): The peach borer is moderately abundant at Martinsburg where not treated.
- Georgia C. H. Alden (February): The peach borer is moderately abundant at Albany in neglected peach orchards; also moderately abundant in peach orchards at Cornelia and Thomaston.
- Florida J. R. Watson (February 18): The peach borer is moderately abundant.
- Kentucky W. A. Price (February 22): The peach borer is moderately abundant at Lexington, Henderson, and Louisville.
- Iowa C. J. Drake (February 25): The peach borer is abundant on peach trees.
- Mississippi R. W. Harned and assistants (February 22): From reports received from the counties in the south-central part of the State, the peach borer is believed to be very abundant, while reports of moderate abundance are received from the northern counties.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck.)

- West Virginia L. M. Peairs (February 17): The oriental fruit moth is generally and moderately abundant. Twig injury is very general.
- Georgia C. H. Alden (February): The oriental fruit moth is scarce on peach at Albany. It is moderately abundant on peach and scarce in apple orchards at Cornelia.
- Ohio J. S. Houser (February 16): Severe injury to peaches by winter killing may affect the insect this year.
- Indiana J. J. Davis (February 24): The sudden severe cold spell in January not only killed the peach buds and otherwise damaged peach trees but apparently has increased the winter mortality of many insects, especially those exposed. Oriental fruit worms have a very high mortality, in some cases 100 per cent, where they are exposed above the ground.
- Illinois W. P. Flint (February 22): Oriental fruit moth larvae

carried in a screened insectary inside a tight wooden container in the insectary, and in turn protected by glass containers and by corrugated paper in which the cocoons were spun, showed 100 per cent mortality. The official temperature at Urbana was -21° F. At Carbondale, where the temperature was -15° F., there was also a complete kill of the oriental fruit moth.

S. C. Chandler (February 20): In Pulaski County where the minimum temperature was -10° F., at one time during the winter, 72 per cent of the larvae of the oriental fruit moth wintering on the trees were killed. In Jackson County, 50 miles farther north, where the temperature reached -15° F., 89 per cent of those wintering on the trees were killed. In both sections the kill was higher in the branches than on the trunks. Most of the larval parasites found had also been killed. To date no examinations of those hibernating on the ground have been made. Last winter's examinations showed that 40 per cent of all larvae in the orchards winter on the ground. One hundred per cent of the larvae being carried over winter in corrugated cardboard strips in outdoor cages were killed at Carbondale.

Missouri

L. Haseman (February 24): The oriental fruit moths were collected at Cape Girardeau.

Mississippi

O. M. Chance (February 21): The oriental fruit moth is scarce.

N. L. Douglass (February 22): The oriental fruit moth is moderately abundant.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Delaware

L. A. Stearns (February 19): Two broods of the plum curculio developed in southern Delaware during 1929 and the insect went into hibernation in unusually large numbers.

Georgia

O. I. Snapp (February 19): The weather at Fort Valley has not yet been sufficiently cold to bring about mortality of many adult plum curculios in hibernation. The minimum to date is 18.9° F., which, according to hibernation records, is not cold enough to kill many curculios in hibernation.

C. H. Alden (February): No adults have been observed so far at Albany, but there was a heavy infestation in peaches last season. The insect is moderately abundant at Cornelia and Thomaston.

Mississippi

N. L. Douglass (February 22): The plum curculio is very abundant.

STOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia O. I. Snapp (February 27): The first adults of the season were found on peach trees at Fort Valley today.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

South Carolina M. H. Brunson (February 25): The white peach scale has done considerable damage to peach trees at Saluda.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Wisconsin E. L. Chambers (February 27): Some recent observations have revealed the grape leafhopper very abundant and quite active under oak leaves near gooseberry bushes at Madison.

PECAN

AF APHID (Myzocallis fumipennellus Fitch)

Georgia J. B. Gill (February): Heavy infestation of the black pecan aphid (Myzocallis fumipennellus Fitch) is expected to occur in pecan orchards during the coming season. The pest became quite abundant late last summer and caused considerable defoliation in some pecan orchards in the vicinity of Albany.

HICKORY SHUCK WORM (Lespeyresia caryana Fitch)

Mississippi E. Gladney (February 20): The hickory shuck worm is apparently abundant. We have had an unusually cold winter. The worms apparently survived the cold with a very low or no mortality.

R. P. Colmer (February 22): The hickory shuck worm seems to have survived the winter. There are some live larvae.

PECAN CASE BEARER (Acrobasis juglandis LeB.)

Georgia J. B. Gill (February): Hibernacula of the pecan case bearer are quite abundant on pecan trees in southern Georgia. The insect will likely do considerable damage this spring in pecan orchards which were not properly sprayed or dusted last summer.

TWIG GIRDLER (Oncideres cingulata Say)

South Carolina M. H. Brunson (February 25): Pecan trees throughout the State show considerable damage by the pecan twig girdler.

SUBTROPICAL FRUIT INSECTS

CITRUS

MEDITERRANEAN FRUIT FLY (Ceratitidis capitata Wied.)

Hawaii D. F. Fullaway (1929): Mediterranean fruit flies were scarce in the Kona section of Hawaii this year, according to reports of A. C. Mason and W. W. Yothers.

SPIRAEA APHID (Aphis spiraeicola Patch)

Florida J. R. Watson (February 19): This aphid is more abundant at the present time than for several years past at this season of the year. The growth on citrus trees is behind its development as compared with last year. These two facts together indicate the possibility of some considerable damage the coming spring from this insect.

FLORIDA FLOWER THRIPS (Frankliniella tritici bispinosa Mord.)

Florida J. R. Watson (February 19): The Florida flower thrips is unusually scarce at the present time, undoubtedly owing to the abnormally rainy season.

A BOLLWORM (Heliothis sp.)

Arizona O. L. Barnes (February 21): One larva was taken while feeding on orange, brought from a fruit dealer in Phoenix, October 30, 1929. The larva was gnawing through the peel and had almost reached the pulp when observed.

CALIFORNIA PRIONUS (Prionus californicus Mots.)

Arizona O. L. Barnes (February 21): A few citrus trees were severely girdled by the larvae of a species of Prionus, probably californicus, and appeared to be dying at the time the insects were found, November 25, 1929, near Phoenix.

CITRUS RUST MITE (Eriophyes oleivorus Ashm.)

Mississippi J. P. Kislanko (February 22): The citrus rust mite is scarce.

Florida J. R. Watson (February 18): The citrus rust mite is moderately abundant. Rather numerous for February.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Georgia C. H. Alden (February): The citrus whitefly is moderately abundant on ornamentals and Satsuma orange in the vicinities of Albany and Cairo.

Florida J. W. Watson (February 18): The citrus whitefly is moderately abundant.

Mississippi R. W. Harned and assistants (February 22): This insect appears to be scarce to moderately abundant generally and there are a few reports of great abundance on cape jasmine.

Louisiana T. E. Hinds, E. E. Smith, and N. Allen (February 22): The citrus whitefly is moderately abundant; citrus was defoliated at Baton Rouge, but white flies were surviving on privets and cape jasmine.

CITRUS RED SPIDER (Paratetranychus citri McG.)

California Monthly News Letter, Los Angeles County Agricultural Comm. Vol. 12, No. 2, February 15: Red spider conditions in the citrus areas of Los Angeles County are more favorable this February than has been the case for the past four or five years at this season, according to H. H. Wilcomb, Deputy Agricultural Commissioner.

In the past few years red spider has appeared quite heavy in a large number of orchards by February 15th, but this season the infestations to date are confined to an occasional orchard. A few orchards are quite heavily infested, but the condition in general is quite favorable. Infested orchards are usually represented by those which have been untreated or have been fumigated only.

FLORIDA RED SCALE (Chrysomphalus ficus Ashm.)

Florida J. R. Watson (February 18): The Florida red scale is moderately abundant.

Mississippi R. W. Harned and assistants (February 22): Reports indicate that this insect is moderately abundant in south-central Mississippi.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Texas F. L. Thomas (February 25): Mr. S. W. Clark reports that the California red scale crawlers emerged in abundance from scales on fruit and leaves in the field January 26, two days after the temperature had dropped as low as 21° F.

California E. O. Essig (February 24): The California red scale is moderately abundant, which is normal.

BLACK SCALE (Saissetia oleae Bern.)

California E. O. Essig (February 24): The black scale is moderately abundant, which is normal.

PURPLE SCALE (Lepidosaphes beckii Newm.)

- Georgia C. H. Alden (February): The purple scale is on Satsuma orange trees at Cairo and vicinity.
- Florida J. R. Watson (February 18): The purple scale is moderately abundant.
- Mississippi H. Gladney (February 20): The purple scale is moderately abundant. Citrus has been badly injured by cold, reducing the infestation.
- R. P. Colmer (February 22): The purple scale is moderately abundant. The cold seems to have killed some.

CITRUS MEALYBUG (Pseudococcus citri Risso)

- California E. O. Essig (February 24): This insect is diminishing, being largely replaced in the southern part of the State by Pseudococcus gahanii Green.

PINEAPPLE

A GRASSHOPPER (Conocephalus saltator Saussure)

- Hawaii J. F. Illingworth (1929): The longhorned grasshopper Conocephalus saltator Saussure is normally a predacious species, feeding upon mealybugs and other insects. During the summer, these grasshoppers occurred in tremendous numbers in fields adjoining grass areas. In such locations they fed rather extensively upon the tips of pineapple leaves. A more serious damage, however, was done by the females inserting their eggs into the calyx cavities of flowering fruits. Where the ovipositor punctured the tissue, some decay was initiated.

A BUD MOTH (Pyroderces rileyi Walsingham)

- Hawaii J. F. Illingworth (1929): This insect is troublesome on the fruit. The eggs are laid on the blossoms, and the caterpillars live inside the calyx cavities. They feed upon the remains of the stamens and pistils, gnawing them right down to the point of attachment. In some cases a breaking down of the fruit is caused by organisms of decay entering through the wounds opened up by the caterpillars. The moths are one of the suspected agents causing seedy fruit, since they are constantly crawling in and out of the blossoms.

SAF BEETLES (Nitidulidae)

Hawaii

J. F. Illingworth (1929): Souring beetles are increasingly troublesome in new fields. They are an important agent in the destruction of the pineapple plant in all stages of its growth from the time the plant is put into the ground until it matures. About six exotic species occur in the fields. The most abundant one is Carpophilus humeralis Fab.

AN ANTHOCORID (Triphleps sp.)

Hawaii

J. F. Illingworth (1929): The yellow spot disease of pineapples is a new trouble, starting about 1926. It evidently is a virus disease. So far, I have been unable to determine what insect is the vector. Suspicion, at present, rests on this anthocorid bug. It preys upon plant lice on weeds in the field, and is closely associated with pineapple plants.

A RED SPIDER (Stigmaeus floridanus Banks)

Hawaii

J. F. Illingworth (1929): Red spiders, Stigmaeus floridanus Banks, have been particularly troublesome this year in one of the dry districts. Practically all of the planting material from the tops was ruined by them. They multiplied in tremendous numbers between the imbricated leaves at the base of the plant. It has not been possible to reach them in these situations with insecticides.

QUEENSLAND MITE (Tarsonemus ananas Tryon)

Hawaii

J. F. Illingworth (1929): The Queensland mite is a pest of considerable importance. It occurs in the calyx cavity of the fruit. The damage is done by opening up wounds in the tubules, found in the floor of the cavity. Organisms of decay enter through these, causing a considerable breaking down of the fruit.

A MYCETOPHILID (Sciara molokaiensis Grimshaw)

Hawaii

J. F. Illingworth (1929): Mycetophilid flies are a serious pest in some fields during the winter months. The larvae feed on the new roots of pineapples, hollowing out the tips, and eating laterals.

PINEAPPLE MEALYBUG (Pseudococcus brevipes Cockerell)

Hawaii

J. F. Illingworth (1929): This mealybug sometimes causes a peculiar spotting of pineapple leaves where they have fed. This is due to an infection that the bugs get by first feeding on diseased plants. These spotted or infected plants soon succumb. The trouble is the well-known wilt. Mealybugs that have never fed on wilt plants do not produce these symptoms.

GREENHOUSE CENTIPEDE (Scutigera immaculata Newport)

Hawaii

J. F. Illingworth (1929): These centipedes are particularly troublesome in badly drained areas. Under such conditions they eat off the new roots of pineapples as fast as the plant is able to send them out.

TRUCK - CROP INSECTS

APHIDS (Aphidae)

Florida

J. R. Watson (February 19): Aphids were abundant and destructive to truck crops during December. The cool rainy weather has checked them since.

Mississippi

H. Dietrich (February 22): Aphids on turnips in early December were extremely abundant, so they had to be abandoned.

Alabama

J. M. Robinson (February 27): Plant lice are moderately abundant in winter greens and legumes.

A GRASSHOPPER (Atractomorpha ambigua Bol.)

Hawaii

D. F. Fullaway (1929): Pinkwinged grasshopper (Atractomorpha ambigua Bol.). These garden pests have been very destructive in lowland gardens.

A GRASSHOPPER (Oxya chinensis Thumb.)

Hawaii

D. F. Fullaway (1929): This Chinese grasshopper is a destructive garden pest in lowlands.

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi

R. W. Harned (February 24): The first specimens of the vegetable weevil received at this office during 1930 were collected as larvae in Lawrence County, on January 25. They were reported as causing serious injury to turnips. Serious injury to tomato plants in hot beds was reported from Terry on February 11, and from Crystal Springs on February 18. At Crystal Springs the correspondent reported that the injury occurred on tomato seedlings, the apical buds being eaten out and young leaves consumed.

J. E. McEvilly (February 20): The vegetable weevil is abundant on turnips in southern Mississippi.

Louisiana

W. E. Hinds, C. E. Smith, and F. Allen (February 22): The vegetable weevil was reported by Norman Allen as attacking spinach and turnips in Plaquemine Parish, with larvae of all sizes present during third week of February.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Mississippi

H. E. Parish (February 21): This pentatonsid has been moderately abundant at Dry Grove, it being observed in the wooded area on warm days.

A MOLE CRICKET (Scapteriscus sp.)

Florida

J. R. Watson (February 19): Mole crickets have been rather troublesome during the past winter.

POTATO

POTATO APHID (Illinoia solanifolii Ashm.)

Virginia

G. E. Gould (February 20): The potato aphid was found on three plants, endive, spinach, and corn salad. Of the 25 endive plants examined 23 had apterous viviparous females or young, with a maximum of 29 specimens on one plant.

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Florida

J. R. Watson (February 18): The Colorado potato beetle is scarce; still dormant.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Iowa

C. J. Drake (February 25): The potato leafhopper is common over the entire State.

Kansas

R. L. Parker (February 22): The potato leafhopper is moderately abundant. Warm weather brought them from hibernation.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

Indiana

J. J. Davis (February 24): Increasing reports of abundance and destructiveness, especially from canners, are being received. The canners of Indiana are diversifying their canning crops, cabbage coming in strong. This partly explains the increasing importance of the cabbage worm.

Iowa

C. J. Drake (February 25): The imported cabbage worm was very abundant in 1929 at St. Ansgar and Clear Lake.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia

G. E. Gould (February 20): The cabbage aphid was found on cabbage, collards, and kale at Norfolk.

Arizona

O. L. Barnes (February 21): This aphid was abundant on cabbage examined in the Salt Valley February 6 and 19.
River

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

Alabama

J. M. Robinson (February 27): The cabbage maggot is moderately abundant on cabbage stems at Camp Hill.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Virginia

P. J. Chapman (February 20): A few specimens were found active in hibernation cages during the warm days. A fair percentage is expected to survive the winter since many live yet quiescent beetles are found in the cages. No beans will be planted in this section before about March 15.

BEAN THRIPS (Heliothrips fasciatus Pers.)

Utah

C. F. Knowlton (February 18): The bean thrips was abundant in the bean fields of north Logan during the summer of 1928 and seemed to have some effect on causing blossoms to drop off. It was present but less damaging in the same area during the summer of 1929.

STRAWBERRY

A BUPRESTID (Chrysobothris pubescens Fall)

Washington

Wm. T. Baker (December 12 and 30): One field of strawberries at Grand Mound which was examined was apparently infested about 15 or 20 per cent at least and possibly much more as no check was made of runner plants. This pest evidently possesses the ability of becoming a serious hindrance to the production of strawberries.

A CURCULIO (Tyloclerma morbillosa Lec.)

Washington

Wm. T. Baker (December 12 and 30): This pest is evidently more widespread than we had formerly supposed was the case. Recorded as attacking strawberries at Grand Mound and Rochester.

PEAS

PEA APHID (Illinoia pisi Kelt.)

Florida

J. R. Watson (February 19): The pea aphid is showing up around Gainesville. This is nearly two months earlier than we expected to see it.

MELONS

MELON APHID (Aphis gossypii Glov.)

Virginia G. E. Gould (February 20): After examining 150 shepherd's purse plants for the melon aphid, a plant near the greenhouse at Norfolk was found with two apterous viviparous females and a third-instar nymph.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Florida J. R. Watson (February 18): The striped cucumber beetle is very abundant in the Everglades only.

Iowa C. J. Drake (February 25): The striped cucumber beetle is common on cucurbits over the entire State.

Louisiana J. E. Hinds, C. E. Smith, and N. Allen (February 22): The striped cucumber beetle occurs in the truck areas of Baton Rouge and southward. Its occurrence is more irregular than usual, probably owing to winter killing of host plants.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia C. H. Alden (February): The spotted cucumber beetle is scarce on pear and wild plum trees (blooming) at Albany.

Florida J. R. Watson (February 18): The spotted cucumber beetle is moderately abundant; common on cats.

Alabama J. M. Robinson (February 27): The spotted cucumber beetle is moderately abundant on winter legumes at Auburn.

Mississippi W. R. Harned and assistants (February 22): The spotted cucumber beetle is scarce over the State, except in George County, where it is moderately abundant on turnips.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon D. C. Mote (February 19): Diabrotica soror observed on wing.

TOMATO

A LEAF-MINER (Phthorimaea lycopersicella Busck)

Hawaii D. T. Fullaway (1929): The tomato leaf-miner has been very destructive to tomato plants on Molokai, according to the reports of R. M. Duncan, chairman of the Hawaiian Homes Commission.

ENDIVE

AN APHID (Macrosiphum sp.)

Virginia

G. E. Gould (February 20): Males and oviparous females of Macrosiphum sp. were found on lettuce and endive in October and November of both 1928 and 1929.

TURNIPS

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Virginia

G. E. Gould (February 20): The turnip aphid was found on four plants, including cultivated mustard, turnip, winter cress, and shepherd's purse. About 90 per cent of the mustard plants were infested, with a maximum of 13 on one plant.

Mississippi

J. P. Kislanko (February 22): The turnip aphid was quite abundant in the vicinity of Wiggins late in the fall of 1929, causing heavy loss of turnip greens in small garden plantings where control measures for the aphid were not applied.

Arizona

O. L. Barnes (February 21): Severe damage to turnips was observed February 19 near Phoenix.

KALE

GREEN PEACH APHID (Myzus persicae Sulz.)

Virginia

G. E. Gould (February 20): The spinach (or green peach) aphid, Myzus persicae, was found the most common. Apterous viviparous females and young were found on eight different plants including spinach, kale, endive, water cress, cultivated mustard, corn salad (Valerianella locusta), collards, shepherd's purse, and black mustard. Kale was found to have the heaviest infestation, for all plants examined had some specimens on them and one plant had 34 (including young). A winged male of Myzus persicae was found on Physalis sp. in October 1929. The number of individuals surviving the winter at Norfolk appears to be considerably smaller than last year, due in part, possibly, to a cold winter and several drops in temperature.

Arizona

O. L. Barnes (February 21): This insect was observed on February 19 as moderately abundant on spinach, beets, and turnips near Phoenix.

CARROTS

CARROT RUST FLY (Psila rosae Fab.)

Michigan

R. H. Pettit (February 4): The adults of the carrot rust fly emerged in our cages yesterday. These came from Alpena

where they were working in stored carrots. This is an unusual occurrence, as only once before (many years ago at Sault Ste. Marie) has the carrot rust fly been reported from Michigan.

Washington

Wm. W. Baker (January): So far we have not observed this pest working in carrots which are grown in sandy soils but are very serious in peat and muck soils at Fife and Sumner.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Baker)

California

E. O. Essig (February 24): Reported scarce in hibernating quarters.

A SAWFLY (Sterictiphora lineata Rohw.)

Utah

G. F. Knowlton (1929): This insect was very commonly collected in sugar-beet fields in northern Utah during the summer of 1929.

SWEET POTATO

SWEET-POTATO SPHINX (Herse cingulata Fab.)

Hawaii

D. T. Fullaway (1929): Caterpillars of this moth have been very destructive in Honolulu on account of extensive planting of Kuhio vine.

S O U T H E R N F I E L D - C R O P I N S E C T S

TOBACCO

SLUGS (Mollusca)

South Carolina

M. H. Brunson (February 25): Slugs have been reported as damaging stands of young tobacco plants in beds in Williamsburg County.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Florida

J. R. Watson (February 19): A check-up on the cane borer during the harvest time of cane showed that it was unusually scarce over most of the State. Severe infestations were confined to the southwestern counties in regions where damage is always severe. Some fields in the Everglades showed about 1 per cent infestation.

Louisiana

W. E. Hinds, C. E. Smith, and N. Allen (February 22): The sugarcane borer population in hibernation was reduced greatly by the unusually severe cold of December and January when the larvae were destroyed in the frozen cane. It looks now as though there will probably be an unusually small first generation of borers.

SUGARCANE WEEVIL (Rhabdocnemis obscura Boisd.)

Hawaii

O. H. Swezey (1929): The status of this pest remains about the same from year to year. It is generally well controlled by the New Guinea tachinid in a considerable part of the sugarcane areas, but has done appreciable damage in certain districts where conditions are specially favorable to the borer and unfavorable to the parasite. For a considerable portion of the year Mr. C. E. Pemberton was searching in New Guinea and New Britain Island for additional parasites that might be introduced to Hawaii. No additional ones of value were found.

A MOLE CRICKET (Gryllotalpa africana Beauv.)

Hawaii

O. H. Swezey (1929): A few cases were observed where cane planted in low, wet areas suffered injury from the "eyes" being eaten out by mole crickets, also a few of the new shoots eaten off below ground. This insect was known only on Oahu and Kauai, but recently has been found on the island of Maui.

A GRASSHOPPER (Oxya chinensis Thunb.)

Hawaii

O. H. Swezey (1929): These grasshoppers have eaten the cane somewhat along edges of fields or grassy roadsides. Its work has been most conspicuous this year on the Island of Hawaii where it was not known till 1925. It has not become widely spread in the sugarcane areas, where in many places the cane leaves at edges of fields are ragged from its ravages. Scarcely any appreciable damage to the cane results, however.

SUGARCANE LEAFHOPPER (Perkinsiella saccharicida Kirk.)

Hawaii

O. H. Swezey (1929): No injurious outbreaks of this pest occurred during the year. It is sufficiently controlled by the introduced egg-parasites and the introduced mirid bug Cyrtorhinus mundulus Bredd. which sucks the leafhopper eggs.

THRIPS (Thysanoptera)

Hawaii

O. H. Swezey (1929): This year for the first time an occasional specimen of Thrips nanicus Moul. and Chirothrips mexicanus Crawford. have been found on cane leaves. They are grass insects and probably were only accidentally on

the cane leaves. Thrips saccharoni Moulton is usually to be found in young cane, occurring in the spindles. It is usually not numerous enough to cause appreciable injury, but sometimes a spotting or local yellowing of the leaves occurs. Another thrips is only occasionally found beneath leafsheaths of cane, Kentronothrips hawaiiensis Moulton.

GRAY SUGARCANE MEALBUG (Trionymus sacchari Ckll.)

Hawaii

O. H. Swezey (1929): This pest continues its usual prevalence. It does no conspicuous injury. It is not controlled by the introduced ladybeetles that feed on other mealybugs.

FOREST AND SHADE-TREE INSECTS

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

Ohio

E. W. Mendenhall (February 20): Egg clusters of the white-marked tussock moth are very abundant in Dayton and vicinity. They were very destructive last summer and promise the same for the coming year.

E. W. Mendenhall (February 21): There are an abundance of nests of the white-marked tussock moth in and about Columbus. They feed on several kinds of shade trees, maple and sycamore especially.

E. W. Mendenhall (January 10): The egg masses of the white-marked tussock moth are very abundant in Dayton on the street and park trees, as poplar, soft maple, elm, etc. The insect was very bad on the trees in Dayton last summer.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio

E. W. Mendenhall (February 25): The larval bags or cocoons of the bagworm are very abundant in the southwestern counties in Ohio. These insects are on shade trees, evergreens and deciduous trees, hanging on the twigs, and it looks as if there would be a big crop of worms this year.

FALL CANKER WORM (Alsophila pomataria Harr.)

Kansas

R. L. Parker (February 22): The fall canker worm is moderately abundant. Just at peak of emergence.

FOREST TENT CATERPILLAR (Malacosoma disstria Huebn.)

Ohio

E. W. Mendenhall (February 19): While it is not reported as a very destructive insect pest, it becomes very numerous and its tents are very conspicuous even this time of the year.

SATIN MOTH (Stilpnobia salicis L.)

Washington

Wm. W. Baker (February 25): Although it is too early for the larvae to become active at Tacoma it is quite apparent that a large percentage of larvae have been destroyed in some cases by a fungus or else were attacked by a fungus after death occurred from other causes.

BOXELDER

BOXELDER BUG (Leucocoris trivittatus Say)

Kansas

R. L. Parker (February 22): The boxelder bugs are moderately abundant, at Stafford and Havensville House.

Oregon

D. C. Mote (February 19): The boxelder bug was observed on the wing by J. Wilcox.

CEDAR

DEODAR WEEVIL (Pissodes deodarae Hopk.)

South Carolina

M. H. Brunson (February 25): This insect has been reported as doing considerable damage in Dibble nursery, Orangeburg.

Mississippi

R. W. Harned (February 24): Adults were very abundant on Cedrus deodara plants at Meridian, Lauderdale County, during December.

J. E. McEvilly (February 20): The deodor weevil is abundant at McComb on Cedrus deodara.

WHITE-PINE WEEVIL (Pissodes strobi Hopk.)

Mississippi

H. Dietrich (February 22): The pissodes weevil was very abundant all winter on Cedrus deodara.

CYPRESS

CYPRESS BARK BEETLE (Thrhornia cupressi Ehrh.)

California

Monthly News Letter, County of Los Angeles, Agricultural Commissioner, Vol. 12, No. 2, (February 15): Eight additional infestations of cypress bark scale, a serious cypress pest, have been found in the Covina-Pomona district as the result of survey work carried on by the Los Angeles County Agricultural Commissioner's office. This scale was first found attacking a Monterey cypress hedge in the vicinity of Covina last December. The hedge had been severely damaged, several of the individual trees having been completely killed.

The recorded activities of this pest in other parts of the State show it to have been severe in the San Francisco Bay region where it has been destructive to hedges and wind-breaks for a number of years. Its native host is believed to be the incense cedar.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schrank)

Oregon

D. C. Mote (February 19): The elm leaf beetle was observed on the vine by J. Wilcox February 18.

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Wisconsin

E. L. Chambers (February 27): European elm scale has come through this much of the winter without serious loss.

ELM SCURFY SCALE (Chionaspis americana Johns.)

Wisconsin

E. L. Chambers (February 27): Elm scurfy scale has evidently come through this much of the winter without serious loss.

DOUGLAS FIR

DOUGLAS-FIR CATERPILLAR (Euschausia argentata Pack)

Washington

Wm. W. Baker (February): In December it was much more difficult to find colonies than at that time in 1928 but in the latter part of January and during February the colonies have been more easily observed and apparently are more numerous on Douglas fir than a year ago, at Puyallup and Grand Mound.

JUNIPER

JUNIPER SCALE (Diaspis carueli Targ.)

Ohio

E. W. Mendenhall (February 17): Some of the juniper trees in the nurseries at Painesville are quite badly infested with the juniper scale.

OAK

AN OAK WORM (Anisota sp.)

Arizona

O. L. Barnes (February 21): Quite a large area of oak was defoliated near Ft. Thomas. Notes and specimens were received from V. T. Mendenhall, Safford, on December 5.

PINE

A MOTH (Ocnerostoma pinariella Zell.)

Washington

Wm. W. Baker (February): This pest was first noticed in the adult stage in July of 1929 at Puyallup but no attention was paid to it at that time. Larvae were noticed in November and since that time they have eaten considerably further into the needles of Pinus monticola Douglas.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Ohio

E. W. Mendenhall (February 25): Find pine leaf scale quite bad on some of the pine evergreens at Painesville, especially mugho pines in Lake County.

Wisconsin

E. L. Chambers (February 27): Pine leaf scale has evidently come through this much of the winter without serious loss.

Iowa

C. J. Drake (February 25): The pine leaf scale is very common, especially in central and southern Iowa. Many nurserymen are spraying with lime sulphur as a dormant spray this spring to control this pest.

SPRUCE

SPRUCE APHID (Anhis abietina Walk.)

Washington

W. W. Baker (February 3 - 8): The appearance of an aphid, likely Anhis abietina Walk. on Colorado blue spruce at Puyallup and Tacoma was perhaps a trifle later this winter owing to the lower temperature during January.

INSECTS ATTACKING GREENHOUSE

AND ORNAMENTAL PLANTS

RED SPIDERS (Tetranychus telarius L.)

Florida

J. R. Watson (February 19): This insect is doing some damage to "ferneries" of Asparagus plumosus.

Indiana

J. J. Davis (February 24): Reported February 14 as destructive to house plants at Angola. Recent reports have also been received relative to injury during 1929 to quince at Shelbyville and evergreens at Hobart.

Mississippi

T. F. McGehee (February 21): Moderately abundant on coniferous evergreen in north-central Mississippi.

CYCLAMEN MITE (Tarsonemus pallidus Banks)

Indiana J. J. Davis (February 24): Reported destructive to greenhouse verbenas at Brownstown, January 2.

A FUNGUS GNAT (Sciara sp.)

Indiana J. J. Davis (February 24): Fungus gnat maggots (Sciara sp.) were reported injuring potted plants at Albion, December 16.

JAPANESE ROSE BEETLE (Adoretus sinicus Burm.)

Hawaii D. T. Fulloway (1929): These beetles were very destructive as usual during August and September.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia J. B. Gill (February): Serious outbreaks have occurred at Valdosta and Cairo. Ornamentals, such as Pittosporum, Spiraea, Nandina, and Satsuma orange trees were badly infested.

CITRUS BEALYBUG (Pseudococcus citri Risso)

Kentucky W. A. Price (February 22): Numerous on house plants.

FLORIDA WAX SCALE (Ceroplastes cirripediformis Comst.)

Georgia J. B. Gill (February): Rather heavy infestation of the barnacle scale occurred at Albany on hackberry trees and some ornamental plants.

LONG SOFT SCALE (Coccus elongatus Sign.)

Washington Wm. W. Baker (January 29): The long soft scale has been observed attacking Acacia minula at Tacoma. Although I have made no consistent effort to become acquainted with the scales of greenhouse plants I am quite sure that this is the first infestation that I have observed, in this territory.

CAMELLIA

CHAFF SCALE (Parlatoria pergandii Comst.)

South Carolina M. H. Brunson (February 25): Specimens of Camellia japonica affected with the chaff scale were recently received at the Division of Entomology, Clemson College. No observation was made as to the extent of infestation and damage.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Virginia

P. J. Chapman and G. E. Gould (February 10): The scale has been and continues to be the limiting factor in growing Euonymus, a highly desirable ornamental for Norfolk. A count of 3,000 scales showed that 30 per cent of all present (including both old and new scales) contained live insects. All were full-grown females. No eggs found.

Mississippi

N. L. Douglass (February 22): This scale is reported very abundant in Gunada, Carroll, Tallahatchie, Montgomery, and Yalobusha Counties.

OLEANDER

POLKA-DOT WASP-MOTH (Syntomeida epilais Walk.)

Florida

J. R. Watson (February 19): The polka-dot wasp-moth has been reported doing considerable damage to oleanders during the last month or so.

VIOLETS

GREENHOUSE LEAF TYER (Phlyctaenia ferrugalis Hbn.)

Arizona

O. L. Barnes (February 21): Severe injury to cultivated violets near Phoenix. Adults, larvae, and pupae were observed on December 17.

INSECTS ATTACKING MAN AND

DOMESTIC ANIMALS

MAN

RAT MITE (Linonyssus bacoti Hirst)

Mississippi

R. W. Harned (February 24): The tropical rat mite, Linonyssus bacoti Hirst, was received from Jackson on December 14. The mites were collected in a steam laundry by O. M. Chance who reported as follows: "Apparently from one corner of large office, and causing great annoyance to persons as blood suckers. May come from mice." These mites were identified by Dr. H. E. Ewing of the United States Bureau of Entomology.

HOUSEHOLD AND STORED -
PRODUCTS INSECTS

TERMITES (Reticulitermes spp.)

- Indiana J. J. Davis (February 24): Reports of injury to dwelling, store, factory, and library buildings have come to us the past two months from Crawfordsville, Gas City, Logansport, and Tell City.
- Kansas R. L. Parker (February 23): Moderately abundant in Mankato, Olathe, and McPherson, in houses and other buildings.
- Mississippi C. Hines (February 23): Subterranean termites causing considerable damage to buildings in Yazoo City and Canton.
- Wm. L. Gray (February 24): Very abundant at Natchez.
- Nevada G. G. Schewis (February 6): The termites were taken from the interior of a room in the Agricultural Building on the campus of the University of Nevada. They were coming into the room through a small crack in the cement flooring. It is impossible for us to tell you at this time whether the termites were attacking the building or whether any damage has been done; however, if this cement flooring is removed for any purpose in the near future we will look into the matter and if any serious damage has been done will report the same to you. (Det. by T. E. Snyder.)
- Arizona O. L. Barnes (February 21): During November and December, 1929, several complaints were received of damage to floors and rugs in residences in or near Phoenix.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

- South Carolina M. H. Brunson (February 25): The Argentine ant has recently been discovered at Spartanburg. (Det. by Dr. M. R. Smith.)
- Mississippi R. W. Harned (February 25): At the present time probably 1 per cent of the area in Mississippi is infested with the Argentine ant. However, it is doubtful if any other insect causes as much annoyance to people in Mississippi with the possible exception of mosquitoes and house flies. The amount of loss and damage that it causes in the State each year probably exceeds that of any other species with the exception of the boll weevil, boll worm, termites, and possibly a few others.
- M. R. Smith (February): The following new infestations have recently been found: Hoffman, Holmes County; Dossville, Leake County; near Jackson, Hinds County. Argentine ants have been observed working outdoors at an air temperature of 40.5° F.

At this temperature the workers were barely moving on a tree, or in other words only covering a distance of 1 foot in 245 seconds. This is the lowest temperature at which we have so far found them active. They are very commonly found working at all temperatures in the fifties, but of course at somewhat slower rates than at higher temperatures.

L. J. Goodgame (February 22): Argentine ants are feeding well now. They are giving considerable trouble in homes in Monroe County.

G. L. Bond (February 22): Argentine ants were found crawling around on concrete walks in Ellisville while the ground was frozen.

M. R. Smith (February 20): An observation made on a colony of Argentine ants nesting in a log at Starksville showed that the ants can stand temperatures as low as 10°F. without suffering any noticeable mortality. Hundreds of specimens found in crevices beneath the loose bark of the log and surrounded by particles of frost quickly revived when brought to a warm room. Observations on a number of Argentine ant colonies at Starksville show that certain birds have been digging into the nest and feeding on the ants at various times during the winter. The exact species of birds feeding on the ants has not yet been learned.

FIRE ANT (*Solenopsis geminata* Fab.)

Mississippi

Wm. L. Gray (February 24): Fire ants are very abundant in yards and gardens at Natchez.

M. R. Smith (February 20): A number of people in various localities in the state have complained of fire ant workers emerging from crevices around the hearths of their fireplaces and getting into clothing, food, etc. These ants often nest in cracks in the masonry or woodwork of houses, and for that reason infest houses even during the coldest weather in winter.

ANTS (Formicidae)

Mississippi

M. R. Smith (February 20): Mr. Jack Milton has submitted to this office specimens of the so-called honey ant, *Prenolepis imparis* var. *testacea* Emery which were giving trouble in a house at Corinth. These native ants are sweet-loving species and could probably be effectively controlled by the use of Argentine ant poison.

Louisiana

M. R. Smith (February 20): Several interesting interceptions of ants in parcel post shipments have been recently made by Plant Board workers. Among them was the interception of one of our common native ants, *Pheidole dentata* Mayr. in the crowns and roots of balled privet from the Jungle Gardens, Avery Island, to a party living in Kosciusko, Mississippi. The ants

were found by Messrs. D. W. Grimes, H. E. Parish, and F. D. McMillan. Only worker ants were received at this office, but judging from the report received from the men, the nests of the ants must have contained other forms.

South Carolina M. R. Smith (February 20): Mr. D. W. Grimes intercepted worker ants of the species Prenolepis (Mylanderia) parvula Mayr. in a package from York to a party in this state. Mr. Grimes failed to notify us what plants, if any, he found the ants on.

Mississippi M. R. Smith (February 20): Mr. W. L. Gray has sent in specimens of the legionary ants, Eciton carolinensis Emery, which were collected in the Argentine ant area at Centerville. This species has only been taken a few times in the state. The legionary ants are noted to feed on the adults and immature stages of other ants, and also on beetles and termites.

EUROPEAN EARWIG (Forficula auricularia L.)

Oregon D. C. Mote (February 19): Male earwigs have left winter quarters. (Observation of R. Dimick.)

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Mississippi Wm. L. Gray (February 24): Cigarette beetles are moderately abundant on furniture at Natchez.

PEA WEEVIL (Mylabris pisorum L.)

Wisconsin E. L. Chambers (February 27): A considerable number of inquiries regarding the control of pea weevils, have been received.

THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States
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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR MARCH, 1930

Present indications are that white grubs will be unusually destructive in the East Central States and northward into Wisconsin.

The pale western cutworm and the army cutworm are already appearing in destructive numbers in several of the Western States from Oklahoma to Nebraska. Reports have also been received of serious cutworm damage from the Gulf region.

The Hessian fly was first observed on the wing at Manhattan, Kans., on March 19.

The green bug is reported as being very abundant in south-central Kansas.

By the third week in March adults of the alfalfa weevil were becoming active in Nevada.

The pea aphid was starting to infest peas in the trucking sections of Virginia during the last week of March, and alfalfa was very seriously damaged early in the month near Fresno, Calif.

Fruit aphid eggs were starting to hatch in the third week in March in Delaware, central Illinois, and Ohio.

Heavy winter mortality of the codling moth is reported from Idaho, Utah, and Washington. The mortality in the Pacific Northwest was in larvae above the snow line, so the actual survival is much higher than this mortality would indicate. Larvae were commencing to pupate in New Mexico in the latter part of the month.

The eastern tent caterpillar seems to be less numerous than usual in New England and normal or above normal in numbers from Virginia southward. Eggs were observed hatching during the second week in March in

Arkansas, and tents were being started during the latter part of the month in the Carolinas, Georgia, and Virginia.

The apple maggot is reported for the first time in Knox County in the extreme northeastern part of Nebraska.

The European red mite appears to be increasing in abundance in the East Central States, particularly in the Northern States. This insect has recently become established in central California.

Eggs of the fruit tree leaf roller are present in sufficient numbers to indicate trouble in Wisconsin, while in the infested parts of Idaho this insect is extremely scarce.

Adults of the plum curculio began leaving hibernation in rather large numbers by March 17 in the Georgia fruit belt, while up to the third week in the month no adults had been seen in Delaware and Virginia. This emergence is unusually late and may prevent the development of a second brood before the Elberta harvest in the southern part of the Atlantic Coast region.

The unusual abundance of the citrus aphid in Florida, reported in the last number of the Survey Bulletin, has been very materially reduced by severe dashing rains.

Reports of serious damage by the vegetable weevil continued to be received from Mississippi during March. This insect is now known to occur in portions of ten counties in the San Francisco Bay district of California.

Reports of more or less serious damage by several species of mole crickets have been received from Alabama, Mississippi, and North Carolina.

Serious injury to ash by the ash borer is reported from parts of North Dakota.

The gloomy scale is unusually numerous in North Carolina. Last year many shade trees were killed by this insect.

The finding of the eonymus scale attacking Japanese spurge (Pachysandra terminalis) in Pennsylvania adds a new plant to the list of hosts of this insect.

Many reports of damage by termites to buildings were received during the month. These came from the south Atlantic, East Central, and Gulf States.

Seed of cabbage palmetto have been severely damaged by bruchids (Pachymerus gleditsiae L.) in Georgia.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- North Dakota J. A. Munro (March 18): It might be well to mention that the usual indications point to trouble from grasshoppers this coming season, especially in the sections affected last year. The grasshoppers were troublesome last year in districts of Ward, McHenry, Burleigh, and Golden Valley Counties.
- Alabama J. M. Robinson (March 22): Grasshoppers (Schistocerca americana Drury) are moderately abundant at Auburn.
- Mississippi H. Dietrich (March 22): Grasshoppers are active in woods in George County.
- Montana W. B. Mabey (March 23): Nothing has occurred which would change our idea that we will have rather severe grasshopper damage this spring.
- Arizona O. L. Barnes (March 22): Grasshoppers are scarce in the Salt River Valley.

WIREWORMS (Elateridae)

- Florida J. R. Watson (March 21): Wireworms are moderately abundant. They have been injuring strawberries.
- Mississippi R. W. Harned and assistants (March): Wireworms are moderately abundant and injury by them is noted on sweet potato in Meshoba, Kemper, Newton, Lauderdale, Clarke, Holmes, Attala, and Leake Counties.
- Texas R. L. Parker (March 20): Wireworms are moderately abundant at Pampa.
- F. L. Thomas (March 27): Wireworms are moderately abundant at Karnes City.

WHITE GRUBS (Phyllophaga spp.)

- Indiana J. J. Davis (March 6): White grubs are very bad in northern Indiana.
- Illinois W. P. Flint (March 6): White grubs are worse than in the past fifteen years.
- Wisconsin E. L. Chambers (March 22): The white grub is reported in southern counties, not active as yet, but serious loss is expected. Where excavation is in progress throughout

the southern part of the State reports of large numbers of white grubs are being received, but no reports of injury, since the grubs are still below the frost line.

C. L. Fluke (March 6): White grubs have been very serious the past few years in the southwestern part of the State, attacking permanent pastures.

Iowa C. J. Drake (March 28): White grubs of brood A are beginning to come up.

Texas F. L. Thomas (March 17): F. F. Bibby collected specimens of Phyllophaga calceata Lec. which were quite numerous under lights.

GREEN JUNE BEETLE (Cotinis nitida L.)

North Carolina J. A. Thomas (March 25): These larvae are very numerous on many older lawns in this section. Unsightly mounds of earth are thrown up on the lawns during the night, making the lawn very uneven and seriously injuring the sod.

CUTWORMS (Noctuidae)

Virginia P. J. Chapman (March 25): Cutworms are scarce in the vicinity of Norfolk.

Georgia C. H. Alden (March 22): A few moths are emerging at Cornelia.

Florida J. R. Watson (March 21): Cutworms are moderately abundant.

Ohio C. R. Neiswander (March 6): Agrotis ypsilon Rott. kills acres of onions in the Bono region.

North Dakota J. A. Munro (March 18): It might be well to mention that the usual indications point to trouble from Porosagrotis orthogonia Morr. this coming season. It was prevalent in several of the southwestern counties.

Nebraska M. H. Swenk (March 24): On March 15 information was received from Imperial, Chase County, that wheat fields in that vicinity were being destroyed by large numbers of army cutworms (Chorizagrotis auxiliaris Grote), which began moving from near-by alfalfa fields about February 22.

Kansas E. L. Parker (March 20): The army cutworm is moderately abundant in wheat at Grainfield.

Oklahoma C. E. Sanborn (March 19): One report has been received pertaining to damage of the pale striped army cutworm (Porosagrotis orthogonia Morr.)

- Alabama J. M. Robinson (March 22): Cutworms are moderately abundant at Auburn.
- Mississippi R. W. Harned and assistants (March): Cutworms have been reported as very abundant at Lucedale, George County, and moderately abundant at Long Beach, Cleveland and Holly Springs. Agrotis ypsilon Rott. is moderately abundant on garden crops at Laurel.
- Texas F. L. Thomas (March 4): (From letter of Mrs. R. E. Cumbie, Bronte, Coke County) "Last year the cutworms and grub worms cut down practically all of my Bermuda onions and beets and they are starting in worse this year than last."
- Montana W. B. Mabey (March 23): Nothing has occurred which will change our idea that we will probably have considerable increase in the activities of Porosagrotis orthogonia Morr.

FALSE CHINCH BUGS (Nysius ericae Schill.)

- Utah G. F. Knowlton (March 27): False chinch bugs are active in a number of places in Boxelder County. They are very abundant on Russian thistle along the roadside for this time of the year.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- Illinois J. H. Bigger (March 25): Moderately to very abundant; many fields in western Illinois will be abandoned.
- Nebraska M. H. Swenk (March 19): The Hessian fly is moderately abundant in the southeastern part of the State.
- Kansas R. L. Parker (March 20): The Hessian fly was first seen flying on March 19 at Manhattan.

GREEN BUG (Toxoptera graminum Rond.)

- Kansas R. L. Parker (March 20): The green bug is reported by E. G. Kelly as being very abundant in Harper County in the south-central part of the State.

WHEAT STRAW WORM (Harmolita grandis Riley)

- Kansas R. L. Parker (March 20): The first generation of the wheat straw worm has emerged in central and western Kansas.

PLAINS FALSE WIREWORM (Eleodes opaca Say)

Kansas

R. L. Parker (March 20): False wireworms are moderately abundant in wheat at Ulysses.

CORNCORN EAR WORM (Heliothis obsoleta Fab.)

Texas

F. L. Thomas (March 27): Eggs of corn ear worm have been observed at College Station; eggs and larvae at Weslaco and Dickinson.

ALFALFA AND CLOVERALFALFA WEEVIL (Phytonomus posticus Gyll.)

Nevada

G. G. Schweis (March 19): Adults are just becoming active.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

Illinois

W. P. Flint (March 24): The clover leaf weevil has been received from several localities in south-central Illinois.

PEA APHID (Illinoia pisi Kalt.)

Virginia

G. E. Gould (March 26): The pea aphid is moderately abundant on alfalfa and rare on the various clovers and vetch. A few individuals were noted on peas, which are now about 3 inches tall.

California

S. Lockwood (March 7): At Fresno the pea aphid has infested alfalfa to such an extent that the earlier growth is wilted beyond recovery. Casts from the insects were so thick on the ground as to give the soil a decidedly mottled appearance. Natural control has reached the point where no further damage is expected in this field.

F R U I T I N S E C T S

APPLE

APHIDS (Aphididae)

Massachusetts

A. I. Bourne (March 24): Eggs of orchard plant lice are moderately abundant. They are somewhat less abundant than a year ago.

Delaware

L. A. Stearns (March 21): Eggs are moderately abundant

and just beginning to hatch in all sections of the State; apple in "early delayed" condition.

Illinois W. P. Flint (March 24): Aphid eggs have hatched generally in orchards in southern Illinois and are hatching throughout central Illinois. In most orchards aphids are very scarce.

Missouri K. C. Sullivan (March 28): The fruit aphids on apple were hatching March 21 in moderate abundance in northwestern Missouri.

Mississippi C. Hines (March 21): Fruit aphids are moderately abundant on wild plums, in Humphreys, Yazoo, and Madison Counties.

Oklahoma C. E. Sanborn (March 19): Fruit aphids are scarce.

APPLE APHID (Aphis pomi DeG.)

Georgia C. H. Alden (March 22): The green apple aphid is scarce at Cornelia.

Idaho C. Wakeland (February 28): Eggs of the green apple aphid are moderately abundant in southwestern Idaho.

ROSY APPLE APHID (Anuraphis roseus Bak.)

Virginia W. J. Schoene (March 22): Examinations, in orchards in several sections, indicate that specimens of the rosy aphid are very difficult to find.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

Virginia W. J. Schoene (March 22): The apple grain aphid is present in small numbers in orchards.

Ohio T. H. Parks (March 24): Newly hatched nymphs are appearing on the tips of opening apple buds. Aphids are scarce. The insect is probably less abundant than the average. It is difficult to find aphids in some orchards.

Illinois J. H. Bigger (March 25): Aphids, mostly Rhopalosiphum prunifoliae Fitch, are moderately abundant; there are scattered outbreaks in western Illinois.

Missouri L. Haseman (March 25): Fruit aphids, at Columbia, were hatching and attacking opening buds on March 20.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

New Mexico J. R. Eyer (March): A few overwintering subterranean forms of the woolly apple aphid are migrating to the trunks and limbs of apple trees.

CODLING MOTH (Carpocapsa pomonella L.)

- Delaware L. A. Stearns (March 21): No pupation of overwintered larvae has been observed to date.
- Illinois J. H. Bigger (March 25): Moderately abundant. There was approximately 60 per cent winter mortality in some orchards in western Illinois.
- Missouri L. Haseman (March 25): Codling moth mortality in the State is variable but very high where temperature dropped below -15° to -30° in exposed places.
- Nebraska M. H. Swenk (March 19): The codling moth is moderately abundant in southeastern Nebraska.
- Idaho C. Wakeland (February 28): There has been heavy mortality of the codling moth above snow line in southern and southwestern Idaho where January minimums ranged from -23° to -33° F.
- Nevada G. G. Schweis (March 19): The codling moth is moderately abundant at Reno.
- Utah G. F. Knowlton (March 15): A count of the codling moth larvae overwintering on trees at Logan showed a mortality on individual trees ranging from 30 to 90 per cent. The average of the total count showed that only 40 per cent of the hibernating larvae had survived the winter. (March 20): An eximination of the codling moth in orchards showed a mortality of 53 per cent at Ogden and of 50 per cent at Clearfield, of the overwintering larvae.
- New Mexico J. R. Eyer (March): Codling moth larvae very abundant. About 2 per cent have pupated.
- Washington E. J. Newcomer (March 21): Codling moth larvae in corrugated paper in an open insectary show mortality of 40 per cent. Temperatures were below zero for eight successive mornings, the lowest being -16° F. In orchards within a few miles of the insectary the mortality is only about 5 per cent, many of the larvae doubtless having been protected by snow.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

- Massachusetts A. I. Bourne (March 24): The egg masses of the eastern tent caterpillar apparently are considerably less numerous than last year. This decline in numbers appears to be quite general throughout the State.
- Virginia P. J. Chapman (March 25): Eastern tent caterpillars are moderately abundant. Tents are just being started,

North Carolina W. A. Thomas (March 17): The small tents of this insect are just showing up in wild cherry trees just coming into foliage. In one tree of medium size more than a dozen tents were observed. The infestation seems to be slightly heavier than last season.

South Carolina M. H. Brunson (March 26): Larvae are abundant in apple and wild cherry.

Georgia J. B. Gill (March 22): The American tent caterpillar is quite scarce in southern Georgia this year. Some colonies of caterpillars have been observed on wild plum and crab-apple trees, but so far none on wild cherry trees. The first webs were seen on February 26, these occurring on a wild crab-apple at Albany.

Arkansas W. J. Baerg (March 14): Caterpillars began hatching yesterday. The egg masses seem to be scarce at Fayetteville.

SPRING CANKER WORM (Paleacrita vernata Peck)

Kansas R. L. Parker (March 20): Spring canker worms are reported from Little River, Glasco, Osborne, and Chanute.

APPLE MAGGOT (Rhagoletis pomonella Walsh).

Nebraska M. H. Swenk (March 24): A new locality for the apple maggot in Nebraska was established by the discovery that last fall in an orchard near Crofton, Knox County, this insect did serious damage to the fruit crop. Previous reports of this insect in Nebraska during the past six years have come from Gage, Nance, and Burt Counties.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Massachusetts A. I. Bourne (March 24): Observation would indicate about normal abundance. This pest is found to fluctuate considerably in individual orchards from year to year. In some orchards where it was moderate to bad last year, it is almost impossible to find them; on the other hand, there are some orchards and individual blocks where the pest is as abundant as I have ever seen it. On the whole, therefore, the situation is normal.

Delaware L. A. Stearns (March 21): The European red mite is moderately abundant in northern Delaware.

Ohio J. S. Houser (March 6): This insect is increasing in abundance but confined to the northern part of the State as far south as Columbus. Baldwin apples are especially susceptible.

E. W. Mendenhall (March 3): The European red mite is abundant in apple orchards in Fairfield County.

- Indiana J. J. Davis (March 6): The European red mite is increasing in the State but is not important so far.
- Michigan R. H. Pettit (March 21): The European red mite bids fair to be plentiful because there are many eggs everywhere. On account of a hot dry summer last year, a good supply of eggs was laid for this year's hatching.
- California E. A. McGregor (February): The European red mite has recently become established in central California. The variety, occidentalis McG., has for years been known to occur in the Pacific Northwest and southward to the southern borders of San Francisco Bay. This pest, when first found here in December, 1929, occurred chiefly in the overwintering egg stage and there were countless thousands of these eggs present on the branches of trees in the peach orchard near Tulare in which they were discovered. Obviously this adds to the pest list of central California a species of potentially great economic importance.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

- Wisconsin A. A. Granovsky (March 20): There are prospects of new outbreaks of the fruit tree leaf roller. The eggs are quite numerous in several apple orchards. Large outbreaks of these insects are expected and preparation is being made for their control.
- Idaho C. Lakeland (February 28): The fruit tree leaf roller is extremely scarce in districts where it was abundant three years ago.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

- Delaware L. A. Stearns (March 21): The San Jose scale is scarce.
- Virginia P. J. Chapman (March 25): The San Jose scale is scarce, same as last report, at Norfolk.
- Georgia J. B. Gill (March 22): The San Jose scale is abundant at Albany in neglected peach orchards and in sprayed peach orchards there still remains considerable live scale on some trees.
- C. E. Alden (March 22): The San Jose scale is moderately abundant at Thomaston, and scarce at Cornelia.
- Florida J. A. Watson (March 21): The San Jose scale is moderately abundant.
- Illinois J. H. Bigger (March 25): The San Jose scale suffered a very high winter mortality in western Illinois.

- Wisconsin E. L. Chambers (March 22): The San Jose scale is restricted to several villages and cities in southern Wisconsin. It does not occur in any commercial orchards in Wisconsin. (Various scale insects seem to have come through the winter without suffering as great a loss as usual.)
- Missouri L. Haseman (March 25): The San Jose scale suffered high mortality at Columbia with -16° F. There is little or no spring development in evidence as yet.
- Oklahoma C. E. Sanborn (March 19): The San Jose scale is moderately abundant.
- Alabama J. M. Robinson (March 22): The San Jose scale is moderately abundant on crab-apple at Talladega and Auburn.
- Mississippi R. W. Harned and assistants (March): The San Jose scale has been reported as very abundant from the northern half and moderately abundant from the southern half of the State.
- Colorado C. P. Gillette (February 28): The San Jose scale is moderately abundant in the vicinity of Grand Junction, Mesa County.
- Idaho C. Wakeland (February 28): Nearly all of the San Jose scales were killed in southwestern Idaho above snow line, by the low temperatures of January. This year -25° F. is the fatal temperature.
- Nevada G. G. Schweis (March 19): The San Jose scale is moderately abundant.
- New Mexico J. R. Eyer (March): The San Jose scale is scarce in sprayed and moderately abundant in unsprayed orchards.
- PURPLE SCALE (Lepidosaphes beckii Newm.)
- Mississippi F. P. Amsler (March 23): The purple scale is moderately abundant at Gulfport, Harrison County.
- H. Gladney (March 22): The purple scale is moderately abundant on citrus in western Jackson County.
- OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)
- Iowa C. J. Drake (March 28): Found infestations on apple and currents in yard and gardens in Des Moines, during March.

PEACH

PEACH BORER (Aegeria exitiosa Say)

- Delaware L. A. Stearns (March 21): The peach borer is moderately abundant in untreated orchards.
- Georgia O. I. Snapp (March 20): As usual, this insect is causing considerable damage in peach orchards that were not wormed or treated.
- C. H. Alden (March 22): Hibernating larvae of the peach borer ^{are} moderately abundant at Cornelia.
- Florida J. R. Watson (March 21): The peach borer is moderately abundant; more complaints than usual having been received.
- Oklahoma C. E. Sanborn (March 19): The peach borer is moderately abundant.
- Mississippi R. W. Harned and assistants (March): This insect has been reported as moderately abundant over the most of the State and there have been reports of great abundance from the east-central part of the State.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

- Delaware L. A. Stearns (March 21): Pupation of overwintered larvae has commenced. Peaches are in the pre pink to early pink condition.
- Georgia C. H. Alden (March 22): The oriental fruit moth was emerging at Augusta March 18.
- J. B. Gill (March 22): No infested shoots have been observed as yet at Albany.
- Illinois S. C. Chandler (March 6): Larvae on trees were killed by low temperature in the winter of 1929-1930, as follows: Cairo, 72 per cent; Carbondale, 89 per cent.
- Mississippi G. L. Bond (March 22): The oriental fruit moth is scarce in the vicinity of Laurel. Have noticed some damage to peach twigs which was done last summer.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

- Delaware L. A. Stearns (March 21): None has emerged from hibernation to date.
- Virginia W. J. Schoene (March 22): The peach trees are in full bloom in the Crozet section but as yet no plum curculios have been found.

Georgia

O. I. Snapp (March 20): Adults began leaving hibernation in numbers on March 17. This is much later than usual when compared with the present stage of development of the fruit, and is due to the cold, rainy weather which prevailed since the trees started to bloom. Most of the petals have fallen from the Hileys by this date and about half of them are off the Elbertas. The late appearance of these insects from hibernation this year may prevent the development of a second brood of larvae before Elberta harvest. Spraying has started and growers have an excellent opportunity this year to poison the food of the adults before they become disseminated throughout the orchards.

J. B. Gill (March 22): At Albany the plum curculio adults have made their appearance on wild plum trees and in commercial orchards but adults appear to be quite scarce. Oviposition is now (March 25) occurring in peaches with shucks off, but no egg punctures have been observed on wild plums. Cold weather has severely damaged the fruit on wild plum trees, especially those growing in low places, and this condition may add to the curculio menace in so far as the peach grower is concerned.

C. H. Alden (March 22): Cold weather delayed the emergence of the plum curculio at Cornelia and Thomaston; 5 adults were collected at Thomaston today.

Florida

J. R. Watson (March 21): The plum curculio is scarce. Emergence has been delayed by cold wet weather.

Illinois

W. P. Flint (March 6): In Pike, Green, Adams, and Scott Counties the percentages of fruit infested in unsprayed plots in recent years have been as follows: 1925, 72; 1926, 69; 1927, 92; 1928, 68; 1929, 99.

Oklahoma

C. E. Sanborn (March 19): The plum curculio is scarce.

Mississippi

R. W. Harned and assistants (March): Reports from scattered localities over the State indicate that the plum curculio is moderately abundant.

CHERRY

CHERRY CASE BEARER (Coleophora pruniella Clemens)

Wisconsin

A. A. Granovsky (March 20): There are prospects of new outbreaks of the cherry case bearer. Case bearers, still in a dormant stage in half grown larval cases, are present in all of the cherry orchards in Door County in large numbers.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Mississippi

J. E. McEvilly (March 22): The rusty plum aphids are moderately abundant at McComb.

MEALY PLUM APHID (Hyalopterus arundinis Fab.)

California

E. C. Essig (March 20): The mealy plum aphid began hatching in early March and is abundant in some localities.

A TWIG BORER (Mineola scitulella Hulst)

Idaho

C. Wakeland (March 21): Mineola scitulella began emerging from hibernacula on prune trees March 19.

GRAPE

APPLE TWIG BORER (Amphicerus bicaudatus Say)

Kansas

R. L. Parker (March 20): The grape cane borer is reported as rather abundant in a vineyard at Richfield.

GOOSEBERRY FRUIT WORM (Zophodia grossulariae Riley)

Utah

G. E. Knowlton (March 15): Birds played an important part in the control of the gooseberry fruit worm, in fields at Bountiful, where rubbish had been raked from beneath the bushes.

PECAN

PECAN SHUCK WORM (Laspeyresia caryana Fitch)

Mississippi

R. W. Harned (March 28): Inspector J. P. Kislanko reported that on March 6 he examined pecan shucks from a grove at Wiggins, Stone County, and found 69.56 per cent of the shuck worms in the pupal stage. The next day the first adult of this species emerged. Mr. Langston examined pecan shucks from a grove at A. & M. College on March 25 and reports that 58 per cent of the shuck worms have been killed by parasites, and that 77 per cent of the parasited had already emerged. Only 45 per cent of the live shuck worms were in the pupal stage. The first adult emerged at A. & M. College on March 25.

PECAN CASE BEARER (Acrobasis juglandis LeB.)

Georgia

J. B. Gill (March 22): The pecan leaf case bearer

larvae are now (March 25) beginning to leave their hibernacula and to gnaw into the unfolding buds on well-advanced pecan trees in southern Georgia (Valdosta, Thomasville, Cairo, and Albany).

Mississippi

R. W. Harned (March 26): One larva of a case bearer was found feeding on pecan buds.

PECAN BUDMOTH (Proteopteryx bolliana Sling.)

Georgia

J. B. Gill (March 22): Oviposition of the pecan budmoth (Proteopteryx bolliana Sling.) has started in the pecan orchards and nurseries of southern Georgia. On March 24 the first larvae of the season were found working in the buds of well-advanced pecan trees.

A MOTH (Cossula magnifica Strecker)

South Carolina

M. H. Brunson (February 27): The pecan trunk borer is moderately abundant in a grove belonging to Mr. C. D. Weeks.

Georgia

T. L. Bissell (March 25): These borers are abnormally abundant in pecan orchards at Barnesville and Experiment.

Alabama

J. M. Robinson (March 22): The pecan borer is moderately abundant on pecan trunks at Andalusia.

TWIG GIRDLER (Oncideres cingulatus Say)

Mississippi

D. W. Grimes (March 23): The hickory twig girdler is moderately abundant in the central part of the State in one pecan orchard.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Alabama

J. M. Robinson (March 22): The cottony-cushion scale is moderately abundant on pecan at Atmore.

SUBTROPICAL FRUIT INSECTS

CITRUS

Florida

CITRUS APHID ((Aphis spiraecola Patch)

Florida

J. R. Watson (March 24): The green citrus aphid (Aphis spiraecola Patch) has not developed so heavy an infestation as the situation indicated a month ago. This is apparently due to several heavy dashing rains which probably destroyed many of them and decreased their numbers. They are again on the increase.

CONPEA APHID (Aphis medicaginis Koch)

Arizona O. L. Barnes (March 22): This insect is moderately abundant on citrus and plum trees in the Salt River Valley.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Georgia J. B. Gill (March 22): The citrus whitefly is moderately abundant on ornamentals and Satsuma oranges.

Florida J. R. Watson (March 21): The citrus whitefly was moderately abundant. Adults of the spring generations are just beginning to emerge.

Mississippi R. J. Harned and assistants (March): This insect has been reported as moderately abundant in southeastern Mississippi and very abundant farther north on the eastern edge of the State.

ORANGE THRIPS (Scirtothrips citri Moulton)

Arizona O. L. Barnes (March 22): Found on citrus in all parts of the Salt River Valley March 11-12. Very numerous on navel orange trees in a few groves near Phoenix and in one grove near Mesa. In general, the infestation is light.

PURPLE MITE (Paratetranychus citri McG.)

Florida J. R. Watson (March 21): The purple mite of citrus is moderately abundant.

SIX-SPOTTED MITE (Tetranychus sexmaculatus Riley)

Florida J. R. Watson (March 21): The 6-spotted mite of citrus is moderately abundant.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Nebraska M. H. Swenk (March 24): During March the usual complaints of mealybugs on house plants were received.

CITROPHILUS MEALYBUG (Pseudococcus gahani Green)

California Monthly News Letter, Los Angeles County, Agricultural Commissioner Vol. 12, No. 3, (March 15): The present citrophilus mealybug situation in the citrus orchards of Los Angeles County looks particularly favorable from the control standpoint as compared with the previous seasons.

FLORIDA RED SCALE (Chrysomphalus ficus Ashm.)

Florida J. R. Watson (March 31): The Florida red scale is scarce. A large percentage of small ones were winter killed.

Mississippi O. M. Chance (March 24): The Florida red scale is very abundant in greenhouses at Vicksburg.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Texas S. W. Clark (March 10): Winter-mortality counts of the California red scale show a mortality of 84.2 per cent at Weslaco, which is nearly normal. A severe winter did not seem to damage this pest to any extent.

PURPLE SCALE (Lepidosaphes beckii Newm.)

Georgia J. B. Gill (March 22): An occasional tree of Satsuma orange is infested with the purple scale.

Florida J. R. Watson (March 21): The purple scale is moderately abundant.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia J. B. Gill (March 22): The cottony-cushion scale came through the winter in good shape at Valdosta and Cairo, where heavy infestations occurred last year on various ornamentals and Satsuma oranges. The scale is now (March 20) doing considerable damage, especially at Valdosta. Novius cardinalis was successfully colonized at several points in Georgia last fall and has passed the winter in good condition. March 20, larvae, pupae, and adults were observed in large numbers.

AVOCADO

DICTYOSPERMUM SCALE (Chrysomphalus dictyospermi Morg.)

California Monthly News Letter, Los Angeles County Agricultural Commission Vol. 12, No. 3, (March 15): The dictyospermum scale has been found recently to infest avocado plantings over a rather wide area in the City of Whittier proper.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi E. W. Harned (March 25): Larvae of the vegetable weevil have been received at this office from Holmes, Jones, Rankin, and Jefferson Counties, with the statement in each case that turnips had been seriously injured.

M. D. Peets (March 22): The vegetable weevil is doing considerable damage to tomato plants in cold frames in Covich and Lincoln Counties.

California Stewart Lockwood (March 5): The vegetable weevil is now found in portions of ten counties about the San Francisco Bay district. One of these, Monterey County, has been added to the area by a survey in February. (Determined by Cyril Gammon.)

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

North Carolina W. A. Thomas (March 24): The first specimen of this insect observed this season was taken from the bloom of chokecherry grown in the woods adjacent to an old strawberry field.

Oklahoma C. E. Sanborn (March 19): The striped cucumber beetle is scarce.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Georgia C. H. Alden (March 22): The spotted cucumber beetle is moderately abundant at Thomaston. There are a few at Cornelia.

J. E. Gill (March 22): The spotted cucumber beetle is moderately abundant on peach trees and other plants in bloom.

A MOLE CRICKET (Scapteriscus acletus R. & H.)

Mississippi E. W. Harned (March 25): A correspondent at Baxley, George County, sent to us on March 11 some adult mole crickets that have been identified by Mr. J. M. Longston as Scapteriscus acletus. They were reported as causing injury to small garden plants.

H. Dietrich (March 22): Mole crickets are reported as bad in gardens at Iucedale.

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty)

Alabama J. M. Robinson (March 22): The northern mole cricket is moderately abundant on garden vegetables at Pine Hill.

GREEN PEACH APHID (Myzus persicae Sulz.)

Virginia

G. E. Gould (March 26): Individuals of this species are increasing on both spinach and kale, although they are not present in injurious numbers on either of the plants.

Arizona

O. L. Barnes (March 22): There is a very light infestation on lettuce in several fields examined in the Salt River Valley.

POTATO APHID (Illinoia solanifolii Ashm.)

Virginia

G. E. Gould (March 26): The potato aphid is abundant on spinach, especially on the older plants that have been growing since October.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

North Carolina

C. H. Brannon (March 25): The seed corn maggot is causing considerable damage to bean seedlings in the vicinity of Mount Olive, Wayne County.

Oklahoma

C. E. Sanborn (March 19): The seed corn maggot is scarce.

Texas

S. C. Clark (February 18): A small acreage is affected, particularly early planted fields where germination was retarded by cool weather.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Georgia

J. B. Gill (March 22): No emergence of the Colorado potato beetle has been observed.

Mississippi

R. W. Harned and assistants (March): Reports from the central part of the State are that the Colorado potato beetle is moderately abundant, a few adults having been noticed March 20.

EGGPLANT

A LACEBUG (Corythaica monacha Stal)

Haiti

Roger C. Smith (March 13): An eggplant lacebug has been very serious this spring on eggplants at Port-au-Prince. This is easily the most serious eggplant insect here. It prevented a good many plants here from bearing this spring.

CABBAGE

HARLEQUIN BUG (Murgantia histrionica Hahn)

- Virginia L. W. Brannon (March 19): Harlequin bugs were observed feeding in collard patches until after the middle of November, 1929. On February 10, 1930, searches were made for bugs in hibernation near a collard patch. No bugs were found. The insects have been more or less active in a hibernation cage at this location during the winter months and on warm days feeding has been observed on collard plants placed in the cage. Frequently 50 per cent of the harlequin bugs in a hibernation cage have been observed active when the temperature reached 80° F. or higher.
- Florida J. R. Watson (March 21): The harlequin bug is scarce.
- Oklahoma C. E. Sanborn (March 19): The harlequin bug is scarce.

IMPORTED CABBAGE WORM (Pieris rapae L.)

- Utah G. F. Knowlton (March 27): Adult cabbage butterflies were flying in fields at Corinne, Garland, and Collinston.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

- Arizona O. L. Barnes (March 22): The diamond-back moth is very abundant in one cabbage field examined March 7 near Phoenix.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

- Alabama J. M. Robinson (March 22): The cabbage maggot is moderately abundant on cabbage at Camp Hill.

CABBAGE APHID (Brevicoryne brassicae L.)

- Mississippi G. L. Bond (March 22): The cabbage aphids are moderately abundant in some fields around Laurel.
- Texas S. W. Clark (March 6): The cabbage aphids are abundant and doing considerable damage in the extensive truck section near Edcouch (Weslaco) and other scattered points in the Lower Rio Grande Valley.

SLUGS (Mollusca)

- South Carolina M. H. Brunson (March 18): Three acres of cabbage at Campobello were practically destroyed by slugs which thus far have not been determined as to species.

STRAWBERRY

STRAWBERRY WEEVIL (Anthonomus signatus Say)

North Carolina W. A. Thomas (March 24): This insect began emerging from hibernation on the above date, but the movement to the fields is much slower than in former years, probably owing to cold weather during the middle of the month. No heavy infestations have been observed up to March 24.

STRAWBERRY ROOT APHID (Aphis forbesi Weed)

Mississippi K. L. Cockerham (March 6): On March 6 a small garden patch of strawberries consisting of 500 plants was found to be very severely infested with aphids. Examination showed that practically every plant was infested. Some of this injury may be attributed to winter killing.

A RED SPIDER (Tetranychus sp.)

Mississippi R. W. Harned (March 25): Red spiders were reported as infesting strawberry plants at Meridian on March 21.

BEANS

BEAN THRIPS (Heliothrips fasciatus Perg.)

Utah G. F. Knowlton (March 18): The bean thrips is damaging beans in the experiment station greenhouse. Many plants are almost dead as a result of the attack.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Virginia P. J. Chapman (March 26): I have been unable to find beetles feeding on pollen after a careful search of various species of plants now in bloom, in the Norfolk section.

Florida J. R. Watson (March 21): The striped cucumber beetle is very abundant in everglades only.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimnotata Fab.)

Florida J. R. Watson (March 21): The spotted cucumber beetle is very abundant.

- Mississippi R. W. Harned and assistants (March): The spotted cucumber beetle has been reported as moderately abundant in Bolivar, George, and Jones Counties. The first adult of the season was seen at Vicksburg, Warren County, February 7.
- Alabama J. M. Robinson (March 22): The spotted cucumber beetle is moderately abundant at Auburn.
- Oklahoma C. E. Sanborn (March 19): The spotted cucumber beetle is scarce.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

- Utah G. F. Knowlton (March 18): A count of squash bugs that had overwintered in the insectary showed a mortality of 55 per cent.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

- Mississippi R. W. Harned and assistants (March): Aphids identified by A. L. Hamner as Rhopalosiphum pseudobrassicae were received from Lorman, Jefferson County, on March 19 with the information that turnips were being seriously injured. These insects are becoming abundant in some fields around Laurel and are less prevalent than in several years around Cleveland.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Baker)

- Idaho C. Wakeland (February 28): Government forecast is that the beet leafhopper population is about the same this year as at the same period in 1929 and that 1930 will be a favorable year to grow beets, especially when early planted.
- Utah G. F. Knowlton (March 27): Only an occasional beet leafhopper was found at Promontory, Blue Creek, south of Lamo, and west of Corinne, in today's examination of breeding grounds, but seven females of E. tenellus and 48 specimens of Aralia were taken in 50 sweeps with a net about 7 miles north-west of Garland. In a second fifty sweeps on nearby vegetation, only one tenellus was taken, together with 23 specimens of Aralia. No E. tenellus were found in the beet areas examined at Honner, Clinton, or Ogden.

New Mexico

J. R. Eyer (March): Beet leafhopper adults are abundant on tansy-mustard. Eggs are present in foliage and a few nymphs are hatching.

BEET LEAF BEETLE (Monoxia puncticollis Say)

Utah

G. F. Knowlton (March 15): Beet leafbeetles are active on warm days at Snowville. In a few small areas they are moderately abundant.

MUSHROOMS

GREENHOUSE CENTIPEDE (Scutigera immaculata Newp.)

Ohio

T. H. Parks (March 24): A telephone call from Celina stated that centipedes were destroying mushrooms in a mushroom house. Identification was not secured but the description fits the above named species.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

North Carolina

C. H. Brannon (March 25): The tobacco flea beetle is causing widespread damage to tobacco plant beds all over the eastern part of the State.

F O R E S T A N D S H A D E - T R E E I N S E C T S

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio

T. H. Parks (March 24): Bagworm cases on trees and shrubs at Columbus very rarely carry living eggs this spring. They carry mostly dead pupae, some of which contain parasites.

Kansas

R. L. Parker (March 20): The bagworm is reported as attacking box elder in Dexter.

FOREST TENT CATERPILLAR (Malacosoma disstria Huebn.)

Utah

G. F. Knowlton (March 26): The following parasites were reared from the forest tent caterpillar material, collected at Provo during August 1929 by Dr. H. J. Pack: Ephialtes pedalis (Cress.) Ephialtes sanguinipes (Cress.) Theronia fulvescens (Cress.) and Microbracon xanthonotus (Ashm.). The last species named was most numerous, and was also reared from material collected in Sardine Canyon, July 2, 1929. Determined by C. F. W. Muesebeck.

CHANGA (Scapteriscus vicinus Scud.)

North Carolina . F. H. Clariidge (March 4): The Porto Rican mole cricket near Clayton is doing damage which is noticeable, the seedlings being pulled down into the ground when they are from a month to six weeks old. This injury occurs in patches and is quite serious in some beds. It is noticed that the tunnels are similar to that of a mole only very much smaller and a mole cricket is caught. On the whole the damage this year was very much less than last. The cricket did not seem to be as prevalent and a hard time was had to catch one.

ASH

ASH BORER (Podosesia fraxini Lugger)

North Dakota J. A. Munro (March 18): A letter under date of March 15 from George Hirsch, Bowman, indicates that the ash tree borer is causing serious injury to ash trees in that vicinity. Many of the badly infested trees have been blown over by the wind.

BOXELDER

BOXELDER BUG (Leptocoris trivittatus Say)

Nebraska M. H. Swenk (March 24): The usual number of complaints of the boxelder bug have been received during March, when during warm periods these insects proved quite a pest in houses.

Kansas R. L. Parker (March 20): The boxelder bugs ("pop bugs") are reported as annoying about houses in Oketo, Newton, Sabetta, and Kanopolis.

Utah C. K. Knowlton (March 16): The boxelder bug is very annoying in a number of buildings at the Utah State Agricultural College. The bugs are present in large numbers on the sunny side of buildings during warm days.

CEDAR

DEODAR WEEVIL (Pissodes deodarae Hopk.)

Mississippi R. W. Harned (March 25): Adult weevils that have been identified by J. M. Langston as Pissodes sp., probably Pissodes deodarae, were collected on Cedrus deodara plants at Tupelo on March 21. Serious injury had been caused to one plant on the property from which these specimens were taken.

G. L. Bond (March 22): The deodar weevil is doing quite a bit of damage around Laurel.

J. E. McEvilly (March 22): Deodar weevils are found on Cedrus deodara plants at McComb.

COTTONWOOD

A TENT CATERPILLAR (Malacosoma sp.)

Arizona

O. L. Barnes (March 22): Many cottonwoods in the Salt River Valley were partially or completely defoliated during March. On March 12 larvae were found in webs in large numbers; others were congregated in masses on bare limbs. By March 21 cocoons were abundant in cracks and crevices of bark. The remaining larvae were found singly scattered over trunks of trees and on the ground.

COTTONWOOD SCALE (Chionaspis ortholobis Comst.)

Nebraska

M. H. Swenk (March 24): A farmer near Verdigre, Knox County, reports his cottonwoods badly infested.

CYPRESS

California

CYPRESS BARK SCALE (Ehrhornia cupressi Ehrh.)
Monthly News Letter, Los Angeles County Agricultural Commission, Vol. 12, No. 3, (March 15): The cypress bark scale is apparently of more or less common occurrence in the east end of Los Angeles County. Eight new infestations scattered throughout San Dimas, La Verne, and Pomona have been recorded.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Mod.)

Ohio

J. S. Houser (March 6): The European elm scale has been collected and reported troublesome in Cincinnati, Columbus, and Cleveland.

Indiana

F. N. Wallace (March 6): The European elm scale is seen north of Indianapolis.

J. J. Davis (March 6): The European elm scale is increasing at La Fayette.

Michigan

R. H. Pettit (March 6): The European elm scale is becoming more prevalent.

HACKBERRY

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Mississippi

G. L. Bond (March 22): Shot-hole borers are damaging hackberry trees in Laurel cemetery.

MAPLE

GLOOMY SCALE (Chrysomphalus tenebricosus Comst.)

North Carolina

Z. P. Metcalf (March 20): The gloomy scale has been unusually destructive this past season and many shade maples have been killed in various sections of the State.

PINE

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Utah

G. F. Knowlton (March 16): The pine leaf scale is abundant on most Austrian pine trees on the campus of the Utah State Agricultural College.

SPRUCE

SPRUCE BUDWORM (Harmologa fumiferana Clem.)

Wisconsin

E. L. Chambers (March 22): The spruce and balsam trees are quite generally infested, many complaints having been received.

INSECTS ATTACKING GREENHOUSE

AND ORNAMENTAL PLANTS

APHIDS (Aphidae)

Georgia

O. I. Snapp (March 20): Aphids are unusually abundant on cedars used for ornamental purposes around houses. In some cases considerable injury has resulted.

Arizona

O. L. Barnes (March 22): Aphids (species undetermined) are reported as numerous on roses in the Salt River Valley.

Mississippi

G. L. Bond (March 22): Brown aphids are reported on arbovitae near Laurel.

R. P. Colmer (March 22): Greenaphids on rose bushes are very prevalent around Moss Point and Pascagoula.

R. E. Deen (March 21): Aphids on ornamentals are not near so abundant as this time last spring, near Tupelo.

J. E. McEvilly (March 22): Aphids are found on arborvitae at McComb.

Chesley Hines (March 21): Aphids are moderately abundant on arborvitae at Yazoo City.

GARDEN FLEA HOPPER (Halticus citri Ashm.)

T. H. Parks (March 24): The garden flea hopper was damaging cucumbers in a greenhouse.

RED SPIDER (Tetranychus telarius L.)

J. R. Watson (March 21): The two-spotted mite of Asparagus plumosus has been kept down by rainy weather.

T. F. McGehee (March 22): The red spider is very abundant in a greenhouse at Oxford.

WHITEFLIES (Aleyrodidae)

O. I. Snapp (March 20): Whiteflies are still abundant here and are causing considerable damage to privet and other plantings around dwellings.

CITRUS MEALYBUG (Pseudoccus citri Risso)

R. L. Parker (March 20): Mealybugs are reported as injurious on house plants in Alta Vista.

LATANIA SCALE (Aspidiotus lataniae Sign.)

J. B. Gill (March 22): A light infestation of Aspidiotus lataniae Sign. on tung oil trees has been found at Americus. (Determined by . . . Harold Morrison.)

GREENHOUSE SOWBUG (Armadillidium vulgare Latr.)

E. W. Mendenhall (March 13): The greenhouse in Painesville was found very badly infested with sowbugs doing considerable damage to young plants.

SLUGS (Molluca)

E. W. Mendenhall (March 12): It is found in one of the greenhouses in Painesville that the black snails are very numerous and doing some damage to young plants.

E. W. Mendenhall (March 14): Slugs are doing considerable damage to greenhouse plants in Springfield, and especially delphinium plants which are just starting. Delphinium seems to be their favorite food.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea Loew)

Ohio

E. W. Mendenhall (March 13): The chrysanthemum gall midge is quite bad in some of the greenhouses in Painesville.

E. W. Mendenhall (March 14): The chrysanthemum gall midge is held in check in the greenhouses in Springfield this year. Millions of chrysanthemum plants are grown here each year.

CHRYSANTHEMUM APHID (Macrosiphoniella sanborni Gill.)

Arizona

O. L. Barnes (March 22): The chrysanthemum aphid is abundant on chrysanthemums near Phoenix.

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Alabama

J. M. Robinson (March 22): The euonymus scale is moderately abundant at Montgomery, Cullman, and Felix.

A BLISTER MITE (Eriophyes sp.)

Mississippi

Jack Milton (March 22): A blister mite probably Eriophyes sp. was found to be causing great injury to Euonymus plants shipped from Louisiana to Corinth, Miss. Very little injury was noticed at first but they spread very rapidly and the plants were soon infested with this pest.

FERN

FERN SCALE (Hemichionaspis aspidistrae Sign.)

Ohio

E. W. Mendenhall (March 15): The fern scale is found very bad in a good many greenhouses in the State.

Mississippi

D. W. Grimes (March 23): The fern scale infestations seem to be less severe in most greenhouses in Holmes, Attala, and Leake Counties.

SOFT SCALE (Coccus hesperidum L.)

Alabama

J. M. Robinson (March 22): The soft brown scale is moderately abundant on ferns at Frisco City.

IVY

SMALL GREEN ROSE APHID (Myzaphis rosarum Walk.)

Ohio

E. W. Mendenhall (March 21): Young plants of English ivy in a greenhouse in Springfield are badly infested with green aphids, which are doing considerable damage. There is an abundance.

LILAC

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Ohio

E. W. Mendenhall (March 3): The oyster-shell scale is general and abundant on lilac bark in Ohio. The limbs are crusted with scale in some places where the owner is careless.

JAPONICA

PURPLE SCALE (Lepidosaphes beckii Newm.)

Alabama

J. M. Robinson (March 22): The purple scale is moderately abundant on Japonica at Monroeville.

PACHYSANDRA

EUONYMUS SCALE (Chionaspis euonymi Comst.)

Pennsylvania

J. S. Houser (March 6): Specimens collected on Japanese spurge (Pachysandra terminalis) were exhibited at the La Fayette, Ind., meeting of the North Central States Entomologists on March 6, 1930. These were collected by H. B. Barclay.

I N S E C T S A T T A C K I N G M A N A N D

D O M E S T I C A N I M A L S

MAN

Mosquitoes (Culicinae)

Missouri

L. Haseman (March 25): A number of cases have been reported where mosquitoes have left their overwintering harbors in basements and coal bins and migrated up into the bedrooms in

BEEBUG (Cimex lectularius L.)

- South Carolina M. H. Brunson (March 5): A dwelling at Clio is badly infested with the bedbug.
- Kansas R. L. Parker (March 20): Bedbugs are reported as troublesome in a house in Delevan.
- Utah G. F. Knowlton (March 18): Bedbugs are causing annoyance in a few houses at Corinne and requiring control measures.

CAT FLEA (Ctenocephalus felis Bouche)

- South Carolina M. H. Brunson (March 18): The cat flea is abundant in a dwelling in Neeces. Dogs were the source of infestation.
- Missouri L. Haseman (March 25): Complaints from farmers regarding fleas in their barns and hog houses are coming in early this year, due undoubtedly to the warm weather during the past month.

GERMAN COCKROACH (Blattella germanica L.)

- Arizona O. L. Barnes (March 22): Several complaints were made during March of the abundance of croton bugs in and around houses. In most cases the insects get into places where food is stored. All complaints are from Phoenix.

A SOWBUG (Asellus communis Say)

- South Carolina M. H. Brunson (March 6): This pest is found in abundance in a well at Greelyville.

CATTLE

A BUFFALO GNAT (Eusimulium pecuarum Riley)

- Mississippi F. A. Smith (March 22): This gnat is very abundant along Coldwater River.

PIGEONS

PIGEON HIPPOBOSCID (Lynchia maura Bigot)

- Alabama J. M. Robinson (March 22): The hippoboscids fly is moderately abundant on pigeons at Montgomery.

HOUSEHOLD AND STORED -
PRODUCT INSECTS

TERMITES (Reticulitermes spp.)

- North Carolina Z. P. Metcalf (March 20): Termites have been reported as unusually destructive in Charlotte, Concord, Durham, and Raleigh.
- South Carolina M. H. Brunson (March 20): Termites (Reticulitermes flavipes Kol.) are abundant in a dwelling at Clemson College.
- Ohio T. H. Parks (March 24): Termites have been reported "swarming" in buildings during this month.
- Illinois W. P. Flint (March 24): Termite swarms are beginning to make their appearance in houses in central and southern Illinois and a number of reports of damage have already been received.
- Kentucky W. A. Price (March 25): Termites have been found doing serious damage in Fayette, Daviess, and Jessamine Counties. The winged forms have been active since February 27.
- Missouri L. Haseman (March 25): Unusual interest particularly in heated buildings is being shown in the early activity of termites.
- Kansas R. L. Parker (March 20): Termites are reported in dwellings in Alilene and Kansas City.
- Mississippi G. I. Worthington (March 22): Numerous complaints of termite damage to dwelling houses continue from this section. Lack of light and ventilation, together with dampness and carelessness of the contractor in leaving wooden foundation forms, wood shavings, blocks, and general carpenter waste under houses, are no doubt responsible.
- Jack Milton (March 22): Termites are causing considerable damage to houses in Corinth.
- L. J. Goodgame (March 22): Termites are doing considerable damage in Monroe County.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

- Mississippi R. W. Harned and assistants (March): The Argentine ants have been very active, even during the cold weather, causing much annoyance in the central part of the State.

AN ANT (Pheidole anastasii Emery)

North Carolina Z. P. Metcalf (March 20): Ants, Pheidole anastasii Emery, genus and species determined by Dr. M. R. Smith of Mississippi, have proven very troublesome in houses in Winston-Salem. Depredations have apparently continued throughout the winter.

LARGE BLACK CARPENTER ANT (Camponotus herculeanus L.)

Alabama J. M. Robinson (March 22): Carpenter ants are moderately abundant in houses at Dadesville and Fair Hope.

BOOKLICE (Psocidae)

North Carolina W. A. Thomas (February 15): A single carton of oatmeal from a local grocery store was observed to contain thousands of these small wingless insects. They were evidently feeding on the oatmeal, as the individual grains seemed to be badly pitted. The inside of the carton above the cereal was literally covered with the insects.

A CURCULIONID (Cleonus piger Scop.)

New York C. R. Crosby (March 20): Numerous adults found hibernating among dry beans in storage. Cleonus piger was found at Branchport in dry beans raised on the farm. They, the beans, have probably been there for ages. This place is far from the railroad and is not even on a state road. A note on this insect will appear in "Entomological News" in the near future.

RICE WEEVIL (Calandra oryzae L.)

Nebraska M. H. Swenk (March 24): A Thomas County correspondent sent specimens of the rice weevil with the statement that they were present throughout his house, especially in the basement, where no material was in storage in which they were developing. Thomas County is in the center of the sandhill region of Nebraska and this is the first report of the species that has been received from that part of the State.

BEAN WEEVIL (Mylabris obtectus Say)

Indiana J. J. Davis (March 31): The bean weevil was reported damaging seed beans at Indianapolis.

North Dakota J. A. Munro (March 18): Two reports of the bean weevil were received during the past two weeks; one from Glenburn and the other from Grand Forks. Both reports referred to injury to beans in storage.

Nebraska M. H. Swenk (March 24): Persons having navy beans in storage have reported losses caused by the bean weevil during March.

A MFLABRID (Pachymerus gleditsiae L.)

Georgia

J. B. Gill (March 22): At Albany the seeds of the cabbage palmetto have been severely attacked by the bruchid species Caryobruchus gleditsiae L. Several adult beetles were reared from caged material during the first three weeks in March. (The above mentioned species was determined by Dr. A. G. Boving.)

GRANARY WEEVIL (Calendra granaria L.)

Indiana

J. J. Davis (March 31): The granary weevil was destructive to seed corn at Anderson.

CADALLE (Tenebroides mauritanicus L.)

Indiana

J. J. Davis (March 31): Damage to seed corn by the cadelle was reported from Richmond.

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Kansas

R. L. Parker (March 20): The cigarette beetle is reported in upholstered furniture in Salina.

CARPET BEETLE (Anthrenus scrophulariae L.)

Indiana

J. J. Davis (March 31): This insect was reported as abundant in a dwelling at Bloomington.

A POWDER-POST BEETLE (Lyctus sp.)

Indiana

J. J. Davis (March 31): Powder-post beetles were reported as damaging old hickory furniture at Muncie.

Kansas

R. L. Parker (March 20): A powder-post beetle is reported in oak floors in Salina.

A SILVERFISH (Lepisma sp.)

Kansas

R. L. Parker (March 20): The fishmoth is reported as destroying papers in Atchison.

Mississippi

H. Gladney (March 22): A silverfish is moderately abundant.

THE INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR APRIL, 1930

The serious condition in Nebraska with regard to the army cutworm, reported in the last number of the Survey Bulletin, has continued during the early part of the month. The ring-necked pheasant was found to be a heavy feeder on this species, 122 larvae having been found in the crop of a single specimen. The usual number of spring reports regarding cutworms is being received from practically all parts of the country.

Wireworms are reported as seriously damaging tobacco in Gadsden County, Florida, and sweet potatoes in parts of Mississippi.

Many reports were received from Georgia, westward through Mississippi, of June beetle damage to the foliage of pecan. White grubs are reported as very numerous in the North Central States.

Indications of serious Hessian fly trouble are reported from Missouri. This insect emerged about a week earlier than usual in Oregon.

The chinch bug remains as during the last few years at a very low ebb.

The corn ear worm is now appearing in southern Florida.

Many reports of unusual abundance of the clover leaf weevil have been received from Illinois and Missouri.

Reports of very unusual numbers of crane fly maggots attacking meadows have been received from Illinois and Missouri.

Fruit aphids appear to be moderately abundant over the New England and Middle Atlantic States but less than normally abundant in the East Central States. Over the remainder of the country these insects are reported as scarce.

The codling moth appears, from hibernation counts, to be subnormal in abundance throughout the country. In many cases this is attributed to very high winter mortality.

The fall canker worm is appearing in outbreak numbers in central California.

The first moths of the oriental fruit moth appeared during the first week in April in Illinois and the second week in April in Delaware and southern Ohio. Heavy emergence was observed during the later part of the second week and the early part of the third week of the month in Indiana.

About the middle of the month the first adults of the plum curculio were observed leaving hibernation in Delaware and a few days earlier in northern Virginia. Egg-laying was well under way during the last week in the month in Georgia. The first weevils were found in the trees in southern Illinois on April 14.

The seed corn maggot is again proving very destructive to seed pieces of potato and to snap beans in the coastal section of South Carolina. Cool weather conditions delayed germination of the seed, which is probably responsible for this trouble.

The first adults of the Colorado potato beetle were observed in the Charleston district of South Carolina on April 5. They were observed at Columbia, Mo., April 21.

A very serious outbreak of the strawberry weevil is occurring in the Chadbourn and Burgaw districts of North Carolina.

A number of insects have been noted as attacking strawberry plants in Washington State. Among these are Tyloderma morbillosa Lec., Brachyrhinus ovatus L., Dyslobus decoratus Lec., Geoderces melanothrix Kby., Coniontis sp., and Eleodes sp.

A report of what appears to be the first collection of the squash bug in the State of Idaho was received this year. The specimen was collected in 1929.

The turnip aphid is becoming increasingly destructive in Indiana.

The juniper webworm (Dichomeris marginellus Fab.) is becoming increasingly destructive to juniper nursery stock in Lake County, Ohio.

The deodar weevil is causing considerable damage in many parts of Mississippi.

By the middle of the month the bulb flies were emerging in western Oregon.

The clover mite is attracting considerable attention in the Eastern

and North Central States by entering houses in very large numbers.

The Argentine ant is occasioning considerable alarm in many parts of Mississippi.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR APRIL, 1930

The season of 1929 was characterized over the greater part of the Dominion by a cool, backward spring, followed by an exceptionally dry summer, and generally speaking the country as a whole was comparatively free from serious insect outbreaks.

Weather conditions were favorable to grasshoppers in 1929, and these insects increased markedly over a considerable part of Canada, particularly in the dry cattle-range areas of British Columbia and in sections of the Prairie Provinces. They were not abundant enough, however, to cause serious crop damage.

Moderate outbreaks of cutworms occurred in sections of New Brunswick, southern Ontario and the Prairie Provinces, but damage by these insects was not considered excessive. The estimated loss to field crops, however, in 1929, in Saskatchewan alone, due to cutworm depredations, was placed at nearly one and one-third million dollars.

Depredations by wireworms were reported from parts of Ontario, the Prairie Provinces, and British Columbia, in 1929, but severe crop damage was noted only in Saskatchewan and certain dry sections of Alberta and in the Okanagan Valley, British Columbia. The loss to grain and other field crops in Saskatchewan, due to wireworms, was estimated at approximately three and one-sixth million dollars.

In Ontario, during 1929, the European corn borer, Pyrausta nubilalis Hbn., in general, again showed a decrease in the area in which compulsory control is being enforced, clear decreases being determined in sixteen counties. In the counties of Essex and Kent, formerly the most severely affected, although the stalk infestation was lower, the number of borers was probably about the same as in the previous year. The infestation increased somewhat in eight other counties. In five counties outside the control area the infestation was low, the number of borers remaining about the same as in 1928. An interesting point noted was the apparent quite rapid increase of the borer on Manitoulin Island. In Quebec, although not carefully surveyed, the infestation on the average is considered to have remained about the same as in 1928. In New Brunswick the infestation is still present. No sign of the borer was found in the localities infested in 1928, but it was discovered in very small numbers in other localities in Sunbury, Queens, and Charlotte Counties. The borer also was discovered in very small numbers for the first time in Nova Scotia, in the counties of Kings, Annapolis, Digby, and Yarmouth, and from the stage of development is presumed to be of

the two-generation strain of this species.

The Colorado potato beetle, Leptinotarsa decemlineata Say, was about normal in eastern Canada, during 1929, and less abundant and destructive than usual throughout the West. In British Columbia it occurs only in the extreme southeastern corner of the Province.

The dry season of 1929 engendered increased crop damage by the wheat stem sawfly, Cephus cinctus Nort., in sections of the Prairie Provinces. The loss to wheat in Saskatchewan in 1929, due to the sawfly, was estimated at five and one-half million dollars. The area of greatest damage occurred over the south-central part of the Province. The sawfly also caused noticeable damage in western Manitoba, and in certain localized areas in Alberta. Given favorable weather conditions a further increase of the insect in 1930 is anticipated.

An infestation of the pea weevil, Mylabris pisorum L., was discovered for the first time on Vancouver Island, British Columbia, late in 1929. Efforts are being made to eradicate the insect which so far has not been a pest in the Province.

Slight infestations of the Mexican bean beetle, Epilachna corrupta Muls., were found in three localities in southern Ontario during 1929. This species was first discovered in Ontario, in 1927, but the original infestations disappeared, and it appears extremely likely that climatic conditions will prevent the insect from becoming a pest in Canada.

During 1929 the plum curculio, Conotrachelus nenuphar Hbst., was a serious pest in fruit-growing sections of eastern Canada. The apple curculio, Tachypterellus quadrigibbus Say, was particularly abundant in orchards of southern Quebec, and occurred for the first time as a fruit pest in British Columbia, causing severe damage to pears in the Salmon Arm district.

The codling moth, Carpocapsa pomonella L., appeared to be less than normally abundant in eastern sections of Canada. In the West, this species is increasing in the Okanagan Valley and on Vancouver Island, British Columbia.

The oriental peach moth, Laspeyresia molesta Busck, increased markedly in southern Ontario and caused serious loss in the Niagara district, particularly east of St. Catherines.

Budmoths were less abundant in Nova Scotia orchards than for some years past, but appear to be on the increase in southern sections of New Brunswick, Quebec, and Ontario.

The apple and thorn skeletonizer, Hemerophila pariana Clerck, was recorded for the first time in Ontario, during 1929, in neglected apple orchards of the Niagara peninsula.

The oyster-shell scale, Lepidosaphes ulmi L., appears to be on the increase in sections of New Brunswick and southern Ontario, and is

becoming a serious pest in the interior of British Columbia.

Spider mites were prevalent in many parts of Canada, during 1929. The European red mite, Paratetranychus pilosus C. & F., for the first time was an important pest in orchards of southern New Brunswick, and was abundant and injurious in the Niagara district, Ontario. Red spiders also heavily infested small fruits and various other plants in sections of Ontario and the Prairie Provinces, and fruit trees in the Okanagan Valley, British Columbia.

An outbreak of spruce budworm, Cacoecia fumiferana Clem., on balsam, in the Westree district, north of the Georgian Bay, Ontario, which apparently originated around Meteor Lake, is slowly extending westward. The outbreak of this species on Vancouver Island, British Columbia, north of Victoria, is subsiding.

The fir sawfly, Neodiprion abietis Harr., was found infesting a considerable area of balsam forest in the Sault Ste. Marie district, Ontario, during 1929. An outbreak of this insect in Manitoba has been much reduced by parasites. An incipient outbreak of a species of sawfly, of the same genus as the above, has been discovered affecting jack-pine over a considerable area in the Biscotasing district, Ontario. Severe local outbreaks of the latter insect also were found in Quebec.

The satin moth, Stilpnotia salicis L., which was first recorded in Canada at New Westminster, British Columbia, in 1920, now occurs throughout the Lower Fraser Valley and on the east coast of Vancouver Island.

The European beech bark louse, Cryptococcus fagi Baerns., which occurs widely in Prince Edward Island and Nova Scotia, is spreading northward in eastern New Brunswick from the infested area in Albert and Westmoreland Counties. It was first discovered in New Brunswick in 1927.

The brown-tail moth, Nygmia phaeorrhoea Don., has been practically eliminated from Canada. The only evidence of the pest found since 1927, in the previously infested areas in the Maritime Provinces, was a male moth captured at Fredericton, New Brunswick, in July, 1929.

Infestations of the gipsy moth, Porthetria dispar L., discovered in southern Quebec in 1924, in Stanstead and St. Johns Counties, appear to have been completely stamped out by the vigorous combative measures adopted. Extensive scouting, continued in 1929, failed to reveal any evidences of the pest.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Florida J. R. Watson (April 26): Grasshoppers are moderately abundant.
- South Dakota H. C. Severin and A. L. Ford (April 22): Grasshopper eggs are abundant west of the Missouri River; also in north-eastern South Dakota. Trouble is expected in alfalfa-growing districts especially.
- Utah G. F. Knowlton (March 29): A few half-grown grasshoppers were observed at Snowville today. These are the first I have encountered this spring. (April 23): Grasshopper nymphs which were in the first and second instar were collected west of Corinne, and at Snowville. Very few young grasshoppers have been observed up to the present time. (April 24): A few first and second instar nymphs of grasshoppers were observed in sugar-beet fields at Tremonton.
- G. F. Knowlton (April 12): An adult of the grasshopper Hippiscus corallipes Hald. was collected at Skull Valley April 12, and nearly mature nymphs were collected at Grantsville, April 3, and at Cedar Spring on March 29. This form overwinters in the nymphal condition and is frequently present in damaging numbers in Tooele County.
- Colorado C. P. Gillette (April 22): The grasshopper Anabrus simplex Hald. is scarce in Routt County.

CUTWORMS (Noctuidae)

- North Carolina C. H. Brannon (April 25): Cutworms are causing severe damage to tobacco and truck crops all over eastern North Carolina. In New Hanover County cutworms have caused considerable damage to lettuce by eating into the head.
- Florida J. R. Watson (April 26): Cutworms are moderately abundant.
- Indiana J. J. Davis (April 28): Reports of cutworms are absent except for one outbreak reported in a greenhouse. The variegated cutworm (Lycophotia margaritosa Haw., var. saucia Hbn.) reported damaging foliage of tomato and flowers of calla and carnation in a greenhouse at Decatur March 31.
- South Dakota H. C. Severin and A. L. Ford (April 22): Cutworms are abundant in eastern South Dakota.
- Missouri L. Haseman and P. H. Johnson (April 21): Two or three species of cutworms seem to be unusually abundant. As yet no damage has been reported.

K. C. Sullivan (April 23): Cutworms are reported at Anderson in cornfields following alfalfa.

Nebraska

M. H. Swenk (April 17): Cutworms (Euxoa auxilaris Grote) are moderately abundant on wheat in southeastern Nebraska. This species was still abundant in Scotts Bluff County during early April. A ring-necked pheasant that flew against the windshield of an auto near Morrill, Scotts Bluff County, on April 8, contained 122 army cutworms in its crop.

Kansas

R. L. Parker (April 21): The pale western cutworm (Porosagrotis orthogonia Morr.) is reported as very abundant on wheat in western Kansas. (April 24): The clay-backed cutworm (Feltia gladiaria Morr.) is abundant in the vicinities of Grinnell, Oakley, and Greenfield.

Mississippi

R. W. Harned and assistants (April): Cutworms are quite generally reported as being scarce throughout the State, but Agrotis ypsilon Rott. is moderately abundant at Cleveland.

Colorado

C. P. Gillette (April 22): A cutworm is reported as moderately abundant in Routt and Sedgwick Counties.

Idaho

C. Wakeland (April 22): The usual reports have been received of serious injury by cutworms to gardens in several parts of the State.

Oregon

D. C. Mote (April 21): Cutworms are very abundant on garden plants, young strawberry plants, and flowers. L. P. Rockwood reports that it is still too early to find readily Euxoa messoria Harr. and Euxoa septentrionalis Walk., garden cutworms of the true cutting type, which wintered as eggs and may have survived the winter better.

L. P. Rockwood (April 15): Cutworms, Agrotis c-nigrum L. and Neuria procincta Grote, are not so numerous as usual at Forest Grove, perhaps because of unusually severe cold in January; Cirphis roseola Sm. is about the same as usual.

Washington

Wm. W. Baker (April 3): Cutworms are destroying a large number of new plants in both old and new sod at Grand Mound and Rochester, few occurring in old plantings but fields plowed last fall and replanted this spring are as seriously affected as fields planted on new land.

A NYMPHALID BUTTERFLY (Euphydryas taylori Edw.)

Washington

Wm. W. Baker (March 21-April 10): What appears to be this species was observed to be very numerous in the prairie district around Grand Mound, the caterpillars literally

covering the ground in places. Very little evidence of feeding was found on March 21 but on April 2 some feeding was noticed on buckhorn plantain. Pupae also were found on the latter date. The first butterflies were noticed on April 10.

WIREWORMS (Elateridae)

- Vermont Harold L. Bailey (April 18): Wireworms are moderately abundant.
- Florida F. S. Chamberlin (April 23): Wireworms have necessitated the resetting of tobacco in some fields in Gadsden County.
- Missouri L. Haseman and Paul H. Johnson (April 21): Wireworms are reported scarce at Columbia. Species not determined but less abundant than usual.
- Nebraska M. H. Swenk (April 17): Wireworms (Melanotus fissilis Say) are moderately abundant in eastern Nebraska.
- Mississippi K. L. Cockerham (April 7): Eight and six-tenths per cent of the adults of Heteroderes laurentii Guer. which were placed in hibernating cages last fall were alive on April 7 when the cages were examined and taken up. These beetles were placed on the surface of the ground in trash, potato vines, etc., and enclosed in screen-wire cages. During the winter the lowest temperature recorded here was 18° F.
- R. W. Harned and assistants (April): Wireworms are moderately abundant in many parts of the State, being often recorded as injuring sweet potatoes.
- Idaho C. Wakeland (April 22): Wireworms are reported in southwestern Idaho. Adults emerged in early March and Mr. Lanchester, of the U. S. Bureau of Entomology, reports them as very abundant.

WHITE GRUBS (Phyllophaga spp.)

- Georgia J. B. Gill (April 25): May beetles have been devouring the shoots and foliage of pecan trees at Albany and Americus. No extensive damage has been observed in pecan orchards.
- Ohio J. S. Houser (April 16): White grubs are very abundant.
- Indiana J. J. Davis (April 28): Reports continue to indicate the probability of damage by white grubs in the northwestern quarter of the State.
- Wisconsin E. L. Chambers (April 25): White grubs will be very abundant, as indicated by beetle flight last year.

Minnesota

L. Uptographt (April 23): White grubs are very abundant in Houston County.

Missouri

L. Haseman and P. H. Johnson (April 21): White grubs are reported scarce. Adults are just beginning to fly. Some damage has been noted at Columbia.

Alabama

J. M. Robinson (April 25): On April 12 we had a letter from S. M. Day, County Agent, Alexander City, stating that the adult brown June beetles (Phyllophaga rugosa Melsh. and Phyllophaga tristis Fab.) were destroying young pecan foliage, rugosa being more abundant than tristis. Phyllophaga rugosa was also reported as active on pecan foliage at Livingston.

Mississippi

R. W. Harned (April 22): J. M. Langston reports that May beetles began flying to lights at A. & M. College on March 14, and have continued in increasing numbers. They have attracted attention over the State. Serious injury to pecans was reported on April 17 from Sallis, where 24 males and 6 females of Phyllophaga praetermissa Horn were collected from one small Stuart pecan tree. A correspondent at Carriere wrote as follows on April 15: "They are camping nightly in front of my home and destroying all evidence of new growth on the trees." Specimens that accompanied this complaint were identified by J. M. Langston as Phyllophaga arkansana Schaefer.

R. W. Harned and assistants (April): These insects were first observed in large numbers on March 27 when they were flying around lights in George, Green, and Perry Counties. Since that date they have been quite prevalent throughout the State, being particularly abundant on pecan trees. The following species were observed: Phyllophaga hirticula Knoch, fosteri Burm., luctuosa Horn, micans Knoch, and ulkei Sm.

JAPANESE BEETLE (Popillia japonica Newm.)

Connecticut

W. E. Pritton (April 24): The Japanese beetle is moderately abundant only in certain of the infested areas.

A JUNE BEETLE (Paracotalpa grandicollis Hald.)

Utah

G. F. Knowlton (April 10): Adult June beetles are very abundant west of Garland, and a few of the same species were collected at Snowville and Curlew Valley, all in Box Elder County.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

- Ohio J. S. Houser (April 16): The Hessian fly is scarce in southwestern Ohio.
- Indiana J. J. Davis (April 28): The Hessian fly is moderately abundant in southeastern Indiana.
- Missouri L. Haseman and P. H. Johnson (April 21): The Hessian fly is reported from Columbia and the State of Missouri as a whole as being very abundant. Such reports indicate a serious outbreak. In central Missouri flies actively oviposited April 10-22. Damage from the spring brood of maggots is not yet in evidence.
- Nebraska M. H. Swenk (April 15): The Hessian fly has been emerging since April 1 and at the present writing the bulk of the flies of the first spring brood seem to have emerged. A Gage County correspondent reported on April 7 that the fly puparia in his field were mostly empty on that date, whereas on March 17 emergence had not started. (April 17): The Hessian fly is moderately abundant in the southeastern part of the State.
- Kansas R. L. Parker (April 24): The Hessian fly produced eggs April 9.
- Oregon Max M. Recher (April 15): The first spring brood emerged March 31 at Forest Grove. This is about a week earlier than the average for the first spring emergence.

CHINCH BUG (Blissus leucopterus Say)

- Missouri L. Haseman and P. H. Johnson (April 21): The chinch bug is scarce at Columbia. Still in winter hiding April 10.
- Kansas R. L. Parker (April 21): The chinch bug is reported scarce.

WHEAT STRAW WORM (Harmolita grandis Riley)

- Kansas R. L. Parker (April 24): The wheat straw worm is just going into the pupal stage.

WHEAT THRIPS (Frankliniella tritici Fitch)

- Kansas R. L. Parker (April 24): Thrips are doing considerable damage to wheat in the vicinity of Ellsworth.

CLOVER MITE (Bryobia praetiosa Koch)

ansas

R. L. Parker (April 24): In the vicinity of Haskell County, south of Garden City, there is a mite causing much damage to the wheat. This mite has been sent to Washington for determination. (Det. by H. E. Ewing)

CORN

CORN FLEA BEETLE (Chaetocnema pulicaria Melsh.)

orth Carolina

C. H. Brannon (April 20): Specimens were sent in from the county agent of Robeson County with the report of considerable damage to corn.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

orth Carolina

W. A. Thomas (April 12): A very serious local outbreak of the potato flea beetle in the Chadbourn district has occurred within the past week. Areas of young corn, just well up, have been seriously injured. As many as a dozen specimens were observed feeding on a single leaf, leaving only skeletons of corn plants in their wake.

CORN EAR WORM (Heliothis obsoleta Fab.)

lorida

J. R. Watson (April 26): The corn ear worm is reported moderately abundant over the southern part of the State.

ALFALFA AND CLOVER

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

evada

G. G. Schweis (April 18): The alfalfa weevil is reported as very abundant at Reno. Oviposition to date is greater than normal.

olorado

C. P. Gillette (April 22): The alfalfa weevil is moderately abundant in parts of Delta, Gunnison, Mesa, Montrose, Garfield, Moffelt, and Rio Blanco Counties.

CLOVER LEAF WEEVIL (Hypera punctata Fab.)

ndiana

J. J. Davis (April 28): The clover leaf weevil is reported damaging new clover field at Kempton April 24.

llinois

S. C. Chandler (April 15): Several reports of unusual abundance of the clover leaf weevil have been received from the central and south-central counties.

Missouri

L. Haseman and P. H. Johnson (April 21): The clover leaf weevil is very abundant at Columbia. Most of the weevils were full-fed and had begun to spin cocoons April 15.

ALFALFA CATERPILLAR (Eurymus eurytheme Boisd.)

Utah

G. F. Knowlton (April 28): A few alfalfa butterflies are present in the fields in northern Utah.

CLOVER ROOT BORER (Hylastinus obscurus Marsham)

Oregon

L. P. Rockwood (April 15): Adults were flying on March 28 when the maximum temperature reached 82° F. This is the earliest date ever recorded for the flight of this species at Forest Grove.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon

D. C. Mote (March 28): B. G. Thompson reports Diabrotica soror Lec. present in young clover fields in considerable numbers.

T. R. Chamberlin (April 15): Adults are not so numerous as usual in Washington County and have not damaged the stands of seedling clover appreciably.

PEA APHID (Illinoia pisi Kalt.)

Kansas

R. L. Parker (April 24): The pea aphid is appearing in large enough numbers to cause an outbreak under favorable weather conditions.

Utah

G. F. Knowlton (April 28): The pea aphid is still very scarce on alfalfa and peas in Davis County.

Nevada

G. G. Schweis (April 18): Alfalfa aphids are reported as very abundant at Reno and Minden. Severe injury in small acreages has occurred in these two outbreaks.

Oregon

L. P. Rockwood (April 15): Very little vetch was seeded early enough in the fall of 1929 to become infested in the fall. In one young orchard where vetch was seeded in August 1929, much vetch was killed by a heavy aphid infestation in October and November. In March and early April, 1930, Illinoia pisi was making a slow start on this vetch, apparently owing to the fact that very few aphids survived the winter. There were from 25 to 100 aphids per sweep here April 11. Coccinellid adults of several species averaged from 10 to 100 per sweep. Spiders were very numerous. Alfalfa fields are lightly infested, 30 to 100 per sweep on April 5. Coccinellids and spiders were numerous on alfalfa also. Stem mothers of the aphid were scarce on Scotch broom in Clackamas County in late

March. Sexual forms were scarce on this host last fall in most places and the host plants were in many cases badly injured by cold during the winter.

CLOVER SEED CHALCID (Bruchophagus funebris Howard)

Colorado

C. P. Gillette (April 22): The clover seed chalcid is moderately abundant in alfalfa districts of the State.

GRASS

CRANE FLIES (Tipulidae)

Illinois

S. C. Chandler (April 15): A number of records of tipulid larvae have been submitted with the statement that they were causing injury. It has been impossible to verify this statement in any case.

Missouri

L. Haseman (April 9): We are just now experiencing what appears to be a very extensive outbreak of one of the medium-sized crane flies, specimens of the larvae of which I am sending to Dr. Alexander for identification. The outbreak seems to extend particularly along the northern side of the Missouri River and is heaviest in and surrounding the village of Centralia, just north of Columbia. We are getting a great many letters and samples every day. Undoubtedly this is an entirely different species from the western forms, but they are appearing in pastures and meadows and other crops in enormous numbers and some farmers are complaining that timothy meadows are being injured severely. This is the first heavy outbreak we have ever had and from my own observations to date I am not sure just how much damage this species is doing, if in fact it is actually injuring crops at all. It certainly is abundant enough to do serious damage if it has the habit of attacking roots and crowns of grasses and other crops.

L. Haseman and P. H. Johnson (April 23): An undetermined species of crane fly is very abundant in central Missouri. Some report as many as 100 to a square foot of ground. Some farmers claim that they have injured grass but in breeding cages, they do not seem to eat the roots of grass. They are still in the larval stage.

F R U I T I N S E C T S

APPLE

APHIDS (Aphiidae)

- Connecticut W. E. Britton (April 24): Fruit aphids are moderately abundant.
- New York Weekly News Letter, N. Y. State Coll. Agr. (April): During the first week in April aphids were observed in both the Hudson River Valley and Lake fruit belts, and by the middle of the month they were quite generally observed although they do not appear to be so numerous as last year, being mostly the apple grain aphid and the apple aphid. There were very few rosy aphids observed, although in Ulster County they were very conspicuous by end of month.
- Virginia W. J. Schoene (April 21): All three species of aphids, now found in apple orchards, are present in very small numbers this year. It is assumed that this scarcity of aphids is due to an early freeze which destroyed the foliage before the overwintering eggs were deposited.
- Indiana J. J. Davis (March 31): Apple aphids (apparently both Rhopalosiphum prunifoliae and Aphis pomi) were hatching March 10 at Mitchell according to Steiner's observations. Apparently some had hatched the 8th and 9th. Buds were not showing green at the time and for about a week (at least until the 15th) many of the young starved to death.
- Illinois S. C. Chandler (April 15): There is a scarcity of fruit aphids but all three species were found on apple in southern Illinois.
- Michigan R. H. Pettit (April): Apple aphids are hatching everywhere.
- Missouri L. Haseman and P. H. Johnson (April 22): The fruit aphids are reported as moderately abundant at Columbia. Not increasing seriously from April 15 to April 22.
- Utah G. F. Knowlton (April 19): The fruit aphids are scarce on apple and plum in Box Elder and Cache Counties.
- APPLE APHID (Aphis pomi DeG.)
- New Hampshire P. R. Lowry (April 15): The green apple aphid eggs seem about normal in abundance in the southern part of the State. No hatching yet.
- Vermont Harold L. Bailey (April 18): Moderately abundant in general.

Massachusetts

A. I. Bourne (April 21): At the present time apple plant lice have only recently begun to appear on the buds. These began hatching from April 8 to 12, depending on the section of the State. As a rule they are found generally present but not very abundant in any orchard. This is in marked contrast to last year's experience when they hatched in large numbers and threatened to be a serious problem to the growers during the early season.

Connecticut

Neely Turner (April 21): The initial infestation is not sufficiently large to cause an outbreak unless weather conditions are very favorable. Syrphid-fly eggs are deposited on buds in about the average number.

Georgia

C. H. Alden (April 21): There are few green aphids at Cornelia.

Ohio

J. S. Houser (April 16): Green aphids have not hatched in northern Ohio.

Idaho

C. Wakeland (April 22): Aphis pomi is reported at Lewiston. Stem mothers were feeding on apple buds March 29.

Iowa

G. F. Knowlton (April 19): Apple aphids are rather scarce in Cache and Box Elder Counties.

Oregon

D. C. Mote (March 28): Reported in Oaco orchards at Monroe hatching and attacking the newly opened buds on grafted trees. Last fall many eggs of the green apple aphid in the same location hatched, during periods of high temperatures late in the fall. In examining some of the twigs many dead bodies of aphids were found stuck to the twigs, apparently winter killed.

ROSY APPLE APHID (Anuraphis roseus Bak.)

Connecticut

Neely Turner (April 21): The initial infestation of the rosy apple aphid is not sufficiently large to cause an outbreak unless weather conditions are very favorable.

New York

Weekly News Letter, N. Y. State Coll. Agr. (April): The rosy apple aphid was observed hatching in Orange County on April 9. By the end of the month this species seemed to be more numerous than last year in Orange, Ulster, and Columbia Counties, while over the rest of the State they were very scarce.

Delaware

L. A. Stearns (April 10): The rosy apple aphid is moderately abundant. Apples are in the prepink stage.

Ohio

J. S. Houser (April 16): Rosy aphids have not hatched in northern Ohio.

- Missouri L. Haseman and P. H. Johnson (April 21): A few colonies of the rosy apple aphid are curling leaves at Columbia.
- Oregon D. C. Mote (April 21): The rosy aphid infestation is much lighter than usual in the Willamette Valley.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

- Pennsylvania T. L. Guyton (April 15): The fruit aphid Rhopalosiphum prunifoliae Fitch is very abundant at Harrisburg.
- Indiana J. J. Davis (April 28): Aphids, mostly the apple-grain aphid, are moderately abundant.
- Ohio J. S. Houser (April 16): Apple grain aphids are moderately abundant throughout the State.
- Missouri L. Haseman and P. H. Johnson (April 23): Present, though enemies and weather conditions apparently are keeping them under control.

CODLING MOTH (Carpocapsa pomonella L.)

- Delaware L. A. Stearns (April 3): But 0.5 per cent of overwintered larvae have transformed in insectary and outside cages; apples in late, delayed dormant condition. (April 12): Four per cent of overwintered larvae pupated on April 12. Apples are in prepink stage.
- Indiana J. J. Davis (April 28): The codling moth is moderately abundant throughout the apple belt.
- Missouri L. Haseman and P. H. Johnson (April 21): The codling moth at New Franklin suffered 76 per cent winter mortality. Of living larvae 14 per cent pupated on April 8. One moth was taken in an orchard at Columbia April 7 and two on April 15. None has been taken since April 23 either in orchards or in breeding cages.
- K. C. Sullivan (April 23): The codling moth is reported as having suffered heavy mortality during the winter. Indications are that emergence will be nearly normal. A few adults have already emerged.
- Nebraska M. H. Swenk (April 17): The codling moth is moderately abundant in southeastern Nebraska.
- Kansas R. L. Parker (April 24): The codling moth is in its usual abundance in south-central Kansas.
- Nevada G. G. Schweis (April 18): The codling moth is reported as moderately abundant at Reno. No observation on number of eggs laid.

Idaho C. Wakeland (April 22): Codling moth pupae were collected on the south side of trees, March 29, at Lewiston. Heavy mortality of larvae above snow line was apparent in examination under bark in both northern and southern Idaho. Most of those below snow line survived the winter.

Utah G. F. Knowlton (April 19): The codling moth is moderately abundant in northern Utah; some larvae pupating.

Oregon D. C. Mote (April 21): Adults are emerging in the Willamette Valley.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

New Hampshire P. R. Lowry (April 15): Eggs of the eastern tent caterpillar at Durham seem less common than usual. No hatching yet.

Massachusetts A. I. Bourne (April 21): Tent caterpillars began hatching about April 12. They are being found generally quite scarce, particularly in the orchards. The insect is in much smaller numbers than in 1929.

Connecticut M. P. Zappe (April 21): Tent caterpillars are very scarce where they were quite plentiful last year.

W. E. Britton (April 24): Eastern tent caterpillars are scarce, no nests having been seen yet.

Virginia P. J. Chapman (April 22): The eastern tent caterpillar is moderately abundant at Norfolk though probably not so bad as last year.

Alabama J. M. Robinson (April 21): The tent caterpillar is reported in Lee County.

Mississippi R. W. Harned (April 22): Apple tree tent caterpillars were received from Bailey, on March 27, where they were infesting cherry and plum trees; from Lake, on March 31, where they were infesting plum and peach trees; and from Ethel, on April 3, where they were infesting plum trees.

J. P. Kislanko (April 21): The tent caterpillar (apparently Malacosoma americana Fab.) is scarce this year in the vicinity of Stone County. Only one colony was observed on a wild plum tree near Jiggins. This colony was brought into the laboratory where they commenced pupating on April 16.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

Washington Wm. W. Baker (April 13): Fairly numerous at Puyallup but none found at Puget.

California E. O. Essig (April 21): The forest tent caterpillar was found on apple trees in many localities in Marin and Sonoma Counties between April 1 and 15.

WESTERN TENT CATERPILLAR (Malacosoma pluvialis Dyar)

Washington Wm. W. Baker (April 13): Very numerous on fruit trees at Puget; very few at Puyallup. Apparently some disease or parasite decimated the numbers of this species last year so that very few eggs were laid on the alder, which is their preferred host.

A TENT CATERPILLAR (Malacosoma sp.)

Oregon D. C. Mote (April 21): B. G. Thompson reports tent caterpillars as very numerous.

CASE BEARERS (Coleophora spp.)

New York Weekly News Letter, N. Y. State Coll. Agr. (April): These insects were observed during the third week in April in the Hudson River Valley and the Lake region. Both species were observed during the first week in the month in Niagara County.

SPRING CANCKER WORM (Paleacrita vernata Peck)

North Dakota J. A. Munro (April 25): On a recent trip to Mandan and Bismarck, April 22 and 23, I found a few female moths of the spring cancker worm. I did not, however, find egg bands on the twigs.

Missouri L. Haseman and P. H. Johnson (April 22): The spring cancker worm is one-half grown and has done serious damage to a few young apple trees.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

New York Weekly News Letter, N. Y. State Coll. Agr. (April): During the first week in the month budmoth larvae were found in Niagara County and during the third week they were observed in the southern Hudson River Valley.

Oregon D. C. Mote (April 21): This insect is being found in several localities.

APPLE TWIG MINER (Marmara elotella Busck)

Rhode Island A. E. Stene (April 8): Specimens of apple twigs having something the matter with the bark have been received. No insect has been found connected with the damage but it looks

very much like the tunneling of some small bark borer.
(Det. by C. Heinrich as Marmara sp., presumably elotella
Busck.)

FRUIT TREE LEAF BEETLE (Syneta albida Lec.)

D. C. Mote (April 21): B. G. Thompson reports Syneta
leaf beetles damaging new grafts in an apple orchard.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

Weekly News Letter, N. Y. State Coll. Agr. (April):
Present indications are that the leaf roller will be
unusually abundant in both the Hudson River Valley and
the Lake region. Egg masses are very numerous.

LEAFHOPPERS (Cicadellidae)

L. Haseman and P. H. Johnson (April 23): The apple leaf-
hoppers were reported from Columbia on April 1 abundant and
on wing but by April 23 weather was cool and leafhoppers
were scarce. They are no more abundant this spring than usual.

R. W. Harned and assistants (April): Apple leafhoppers
are not so abundant as usual in the northern and central
counties.

TARNISHED PLANT BUG (Lygus pratensis L.)

Weekly News Letter, N. Y. State Coll. Agr. (April 21):
Ulster County (Wm. Clark) - Tarnished plant bugs are busy
in many orchards.

E. J. Newcomer (April 21): This insect was extremely
abundant during March and early April, in some cases feeding
on fruit buds of pear and apple to the extent that most of
the buds cropped off without blooming.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Philip Garman (April 24): Eggs less abundant in most
orchards.

Weekly News Letter, N. Y. State Coll. Agr. (April 21):
Ulster County (Wm. Clark) - Red mite began hatching early
in the week and can be found in most orchards. Clinton
County (A. B. Burrell) - Red mite eggs are present in small
numbers probably below average.

A LACEBUG (Corythucha sp.)

D. C. Mote and B. G. Thompson (April 21): A severe

infestation of the apple lacebug near Lebanon April 7. Over 100 bugs to a bud cluster. Leaf and fruit buds severely injured. Only that part of orchard next to Douglas fir forest with rather thick undergrowth infested. Apparently overwintering adults came from forest. Bugs are mating and many on the wing spreading to near-by rows.

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

Minnesota

A. G. Ruggles (April 17): The buffalo treehopper is reported from a few young orchards near Twin Cities, one case young trees all practically ruined.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

New Hampshire

P. R. Lowry (April 15): The San Jose scale is a rare insect in the State, but found in two orchards last month at Wilton. Moderately abundant on a few trees, but mostly scattered.

Vermont

H. L. Bailey (April 18): The San Jose scale is apparently present only in the eastern towns of Windham County, especially in Brattleboro, and in the towns of Charlotte, Ferrisburg, and Shelburne, in Chittenden County. Small, isolated infestations have been found elsewhere, but have apparently been eradicated.

Pennsylvania

T. L. Guyton (April 15): The San Jose scale is scarce at Harrisburg.

Georgia

C. H. Alden (April 21): The San Jose scale is scarce at Cornelia and moderately abundant at Thomaston.

J. B. Gill (April 25): The San Jose scale is moderately abundant on peach at Albany.

Florida

J. R. Watson (April 26): The San Jose scale is moderately abundant.

Indiana

J. J. Davis (March 31): The San Jose scale showed a winter mortality of 90 per cent at Mitchell February 19, according to counts made by Mr. Steiner. (April 28): The San Jose scale is moderately abundant where improper treatments have been made.

Ohio

J. S. Houser (April 16): The San Jose scale is scarce throughout the State.

Missouri

L. Haseman and P. H. Johnson (April 24): The San Jose scale is reported scarce in Missouri; winter gave it a very severe setback.

Mississippi

R. W. Harned and assistants (April): The San Jose scale is reported as quite generally prevalent throughout the State and very abundant throughout the northern half of the State, killing trees in some places.

Colorado

C. P. Gillette (April 22): The San Jose scale is scarce; there are some in Mesa County.

Nevada

G. G. Schweis (April 18): The San Jose scale is moderately abundant, mostly on old apple trees, showing no injury.

Washington

M. A. Yothers (March 25): Examinations of approximately 2,000 San Jose scales at each of three places in the Yakima Valley show a mortality of 23 per cent where the minimum January temperature was -14° F., 68 per cent where it was -18° F., and 100 per cent where it was -28° F.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Ohio

J. S. Houser (April 16): The oyster-shell scale is moderately abundant throughout the State.

Indiana

J. J. Davis (March 29): The oyster-shell scale is moderately abundant over the north half of the State.

South Dakota

H. C. Severin and A. L. Ford (April 22): The oyster-shell scale is always a serious pest in eastern South Dakota. This year is no exception.

Missouri

L. Haseman and P. H. Johnson (April 21): The oyster-shell scale is reported as moderately abundant at Waverly; young crawlers were observed April 15.

SCURFY SCALE (Chionaspis furfura Fitch)

Indiana

J. J. Davis (March 31): The scurfy scale is reported abundant on apples at LaPorte.

PEAR

PEAR PSYLLA (Psylla pyricola Forst.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (April): The pear psylla began laying eggs in the lower Hudson River Valley on March 20, and by the first week in April egg-laying was very heavy throughout that region and fly emergence was being reported from the Lake region. By the middle of the month egg-laying was reported from the entire State. In general, the situation is not more serious than usual.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York Weekly News Letter, N. Y. State Coll. Agr. (April):
The pear thrips made its first appearance in the Lower
Hudson Valley on April 14, an unusually warm day. Con-
siderable damage has already been recorded.

PEAR LEAF BLISTER MITE (Eriophyes pyri Pgst.)

California E. O. Essig (April 1): Abundant in buds of orchards not
sprayed in fall. Some terminal buds completely killed.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Vermont H. L. Bailey (April 18): The peach borer has been noted
in the southeastern corner of the State, which is the only
part where peaches can be grown, but I have made no recent
observations.

Pennsylvania T. L. Guyton (April 15): The peach borer is scarce at
Harrisburg.

Georgia C. H. Alden (April 21): Nearly full grown larvae of the
peach borer, though scarce, are found in trees at Cornelia.

J. B. Gill (April 25): The peach borer is moderately
abundant at Albany, especially in neglected peach orchards.

Florida J. R. Watson (April 26): The peach borer is moderately
abundant.

Ohio J. S. Houser (April 16): The peach borer is moderately
abundant throughout the State.

Illinois S. C. Chandler (April 15): There was no unusual winter
mortality of the peach borer in southern Illinois.

Missouri L. Haseman and P. H. Johnson (April 21): The peach borer
is reported moderately abundant in Missouri, but not serious
this year.

Mississippi R. W. Harned and assistants (April): The peach borer is
reported as very abundant in the northern third of the State
and moderately abundant throughout the remainder of the State.

LESSER PEACH BORER (Sesia pictipes G. & R.)

Indiana J. J. Davis (March 31): The lesser peach tree borer was
reported very abundant in young peach trees at Angola.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

A correction. The note referring to this insect in the Insect Pest Survey Bulletin, Vol. 10, No. 1, page 19, as occurring at Cape Girardeau, Mo., is erroneous. Material from this locality was determined by Dr. C. Heinrich as a species of Aegeriidae.

Connecticut

W. E. Britton (April 24): The oriental fruit moth is moderately abundant.

Delaware

L. A. Stearns (April 3): Fifty-three per cent of overwintered larvae have transformed in insectary and outside cages; peaches in from late pink to early bloom condition. (April 12): Seventy-four per cent of overwintered larvae pupated on April 12 as compared with 53 per cent on April 3. First spring-brood moths emerged April 11. Peaches in full bloom.

Georgia

O. I. Snapp (April 21): No twig injury has been observed at Fort Valley to date. The first twig injury last year was observed on April 4.

C. H. Alden (April 21): A few moths are emerging at Cornelia; there is no twig injury.

J. B. Gill (April 25): The oriental fruit moth is scarce at Albany.

Florida

J. R. Watson (April 26): The oriental fruit moth is scarce.

Ohio

J. S. Houser (April 16): The oriental fruit moth is very abundant. Adults emerged in southern Ohio about April 14.

Indiana

R. F. Sazama (April 24): In a dozen bait traps used to check the first emergence of the oriental fruit moth, the first moth was caught April 5. Heavy emergence started the 12th and continued through the 17th, during the especially hot weather we experienced at that time. Since then, cool weather has completely stopped emergence but it is expected that the remainder of the first brood will emerge over a short period of time as soon as warm weather occurs again.

J. J. Davis (March 29): At Bedford and Mitchell, 40 per cent pupated by March 19 and 75 per cent pupated by March 21. (March 31): According to Steiner's examinations 40 per cent of the overwintering worms on the ground had pupated by March 19. By March 21, 75 per cent on the ground and 60 per cent on the trunk had pupated. The season is unusually early although the cold weather the past week (last week in March) has checked development of plants and insects. (April 28): The oriental fruit moth is moderately to very abundant in the peach district.

Illinois

S. C. Chandler (April 15): The first emergence of the oriental fruit moth, from pupae, taken near Cairo took place on April 2 at time of full bloom. Examination of larvae hibernating under the tree on the ground showed that about 50 per cent had been winter killed, as compared with 75 per cent to 90 per cent on the tree.

Mississippi

R. W. Harned and assistants (April): The oriental fruit moth is reported as moderately abundant in the northern part of the State.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Vermont

H. L. Bailey (April 18): The plum curculio is moderately abundant throughout the State.

Delaware

L. A. Stearns (April 15): The first curculio emerged from hibernation at Bridgeville and Camden, April 14.

Virginia

N. J. Schoene (April 21): The plum curculio emerged this year in the central and northern sections of the State about April 12. Considerable interest has been attracted to the curculio on account of the heavy losses last year. The peaches in many districts were in full bloom ten days or two weeks ago.

Georgia

C. H. Alden (April 21): Egg-laying of the plum curculio is very abundant at Cornelia and Thomaston. Thousands of beetles were caught on jarring frames.

O. I. Snapp (April 22): The first collection of peach "drops" has just been made at Fort Valley. Of those collected from trees sprayed according to the recommended spray schedule, 10.6 per cent were infested with curculio larvae as compared with 42.7 per cent infestation for the first collection last year from the same orchard treated according to the same spray schedule. Of those collected from trees dusted according to the recommended dust schedule, 23.5 per cent were infested with curculio larvae as compared with 55 per cent infestation for the first collection last year from the same orchard treated according to the same dust schedule. From these figures a comparison can be made of the early-season curculio infestation in 1929 and 1930.

J. B. Gill (April 25): The plum curculio is moderately abundant at Albany. Not so bad as last year. Larvae were leaving dropped peaches on April 23.

O. I. Snapp (April 8): The first curculio eggs of the season were found in small peaches today. The appearance of adults from hibernation is much less than it was to this time last

year, and may indicate a lighter infestation throughout the season, although the spring has been unusually cold and rainy and this may be keeping them in hibernation later than usual. (April 21): The oldest curculio larvae are now 7 to 10 days old. We are expecting larvae to begin leaving peach drops around April 28, which is later than usual and may result in only one generation before the close of the peach season. While the appearance of adults from hibernation has been heavy during the last two weeks, the infestation is lighter than last year and may be considered a normal one.

Florida J. R. Watson (April 26): The plum curculio is moderately abundant over the northern and central parts of the State.

Ohio J. S. Houser (April 16): The plum curculio is moderately abundant throughout the State.

Indiana J. J. Davis (April 28): The plum curculio is moderately abundant in localized areas.

Illinois S. C. Chandler (April 15): Unsprayed apple trees jarred at Carbondale showed the first curculios on April 14 at the time of full bloom of apples. The first jarred from plum trees were at that date when all the petals were off the plum blossoms.

Minnesota H. O. Putnam (April 24): The plum curculio is very abundant in Fillmore County.

Missouri L. Haseman and P. H. Johnson (April 23): The plum curculio has not yet begun work and is not in evidence.

Mississippi R. W. Harned and assistants (April): The plum curculio appeared during the second week in the month and is moderately abundant throughout the greater part of the State and there are reports of very abnormal abundance in the north-central counties surrounding Granada County.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Indiana J. J. Davis (April 28): Following the winter injury to peach trees, the shot-hole borer is beginning to show its presence in orchards where these weakened trees occur, at least in southern Indiana, according to observations at Mitchell, April 25.

CHERRY

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York

Weekly News Letter, N. Y. State Coll. Agri. (April):
This insect was first observed in Orange County on April 1.
During the second week in the month it was reported from
the entire lower Hudson River Valley and in the Niagara
district. In no section was it serious enough to occasion
alarm.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

Georgia

O. I. Snapp (April 11): A very heavy infestation has been
observed in a peach orchard at Bradley. A plum orchard is
near by.

Missouri

L. Haseman and P. H. Johnson (April 23): The rusty plum
aphid is abundant on some plum trees at Columbia.

Mississippi

R. W. Harned (April 22): The first complaint in regard to
the southern plum or rusty brown aphid, received at this
office during 1930, came on March 26 from Gloster, where this
species was reported very abundant on plum trees. Since that
time this insect has attracted much attention in all districts
of the State. Specimens have been received from Amite, Greene,
Lincoln, Bolivar, Adams, Yazoo, Madison and Tippah Counties.

R. W. Harned and assistants (April): This insect is being
reported as very abundant throughout practically all parts
of the State.

Utah

G. F. Knowlton (April 19): Only a few plum aphids have
been found up to the present time, in northern Utah.

MEALY PLUM APHID (Eyalopterus arundinis Fab.)

South Dakota

H. C. Severin and A. L. Ford (April 22): Mealy and rusty
brown lice of plum always present.

California

E. O. Essig (April 21): The mealy plum aphid is very
abundant on prunes at Stockton.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

Oregon

D. C. Mote (March 28): J. Wilcox reports the prune thrips
active.

BROWN DAY MOTH (Pseudohazis eglanterina Boisd.)

California

E. O. Essig (April 21): The brown day moth was abundant on prunes in a small area at Colusa, on April 17.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Delaware

L. A. Stearns (April 16): Overwintered adults are present in considerable numbers throughout the State; they are just becoming active; grape buds have pushed out one-fourth inch.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Indiana

J. J. Davis (March 31): The rose chafer has been reported abundant and destructive at Chesterton for the past three years. The crop attacked was not indicated specifically, but presumably from the letter grapes were the host.

A TREE CRICKET (Oecanthus sp.)

Kansas

R. L. Parker (April 23): Tree crickets are reported in Salina in grapes.

CURRANT AND GOOSEBERRY

IMPORTED CURRANT WORM (Pteronidea ribesii Scop.)

Missouri

L. Haseman and P. H. Johnson (April 23): The imported gooseberry worm is not yet present to cause damage.

Missouri

R. L. Parker (April 23): The imported currant sawfly is reported at Manhattan on gooseberries.

CURRANT APHID (Myzus ribis L.)

Ohio

G. F. Knowlton (April 19): Currant bushes in North Logan are already noticeably damaged by the aphid, 80 per cent of the leaves being cupred and blotched with red.

GOOSEBERRY FRUIT WORM (Zophodia grossulariae Riley)

Ohio

G. F. Knowlton (April 12): The first moth of the gooseberry fruit worm was observed at Bountiful, Davis County, April 12. (April 28): Moths are less abundant in Davis County than a year ago. Most of them are now dead, but a few are still present at Bountiful, Wal Verde, and Woods Cross.

ENGLISH WALNUT

FALL CANKER WORM (Alsophila pometaria Harr.)

California

E. O. Essig (April 22): The fall canker worm is abundant and injuring English walnut in an area about one mile square in Contra Costa County and is also reported from Solano County. This is apparently a canker worm year in central California.

PERSIMMON

PERSIMMON BORER (Sannina uroceriformis Walk.)

Mississippi

H. Dietrich (April 19): Ther persimmon borer is very abundant in a nursery row near Lucedale.

PECAN

PECAN BUDMOTH (Proteopteryx bolliana Sling.)

Georgia

J. B. Gill (April 23): The pecan budmoth is not abundant in pecan nurseries or orchards. The first-generation larvae have entered the pupal stage at this date.

PECAN LEAF CASE BEARER (Acrobasis nebulella Riley)

Georgia

J. B. Gill (April 25): The pecan leaf case bearer is not so abundant this year, but sufficiently numerous to cause considerable damage in untreated pecan orchards in southern Georgia.

Mississippi

R. W. Harned (April 22): Larvae of one of the case bearers, probably Acrobasis nebulella, were received on April 15 from Bond, where the correspondent stated that she had observed them on her pecan trees.

H. Gladney (April 16): The pecan leaf case bearer is moderately abundant at Ocean Springs.

H. Dietrich (April 19): The pecan leaf case bearer is abundant on pecans at Lucedale.

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Georgia

J. B. Gill (April 25): The larvae are now working in the tender shoots of pecan trees at Albany and other localities in southern Georgia.

PECAN CIGAR CASE BEARER (Coleophora caryaefoliella Clem.)

Georgia

J. B. Gill (April 25): The pecan cigar case bearer is quite scarce this year.

HICKORY SHUCKWORM (Laspeyresia caryana Fitch)

Georgia J. B. Gill (April 25): The adults of the pecan or hickory shuckworm have been observed frequently in pecan orchards during the past two weeks.

Mississippi J. P. Kislanko (April 21): Adults commenced to emerge from cages early in March and are still emerging. The moths in cages are most active during the middle part of the day when the sun is bright. Some adults were observed in a pecan orchard on April 9 flying freely about the tips of the pecan limbs. The day was warm and bright.

PECAN COSSID (Cossula magnifica Strecker)

Georgia J. B. Gill (April 25): The cossid borer has been observed damaging the larger limbs and trunks of pecan trees in various localities in southern Georgia.

APPLE TWIG BORER (Amphicerus bicaudatus Say)

Mississippi R. W. Harned (April 22): Injury to young pecan trees by the grape cane borer was reported from Belzoni on April 12.

A SHOT-HOLE BORER (Xyleborus pecanis Hook.)

Georgia Oliver I. Snapp (February 25): This insect has done considerable damage to pecan trees at Kathleen.

PECAN SPITTLE BUG (Clastoptera obtusa Say)

Georgia J. B. Gill (April 20): Nymphs of the pecan spittle bug have made their appearance on pecan trees at Albany at this time.

AN APHID (Myzocallis fumipennellus Fitch)

Georgia T. L. Bissell (April 23): First aphids hatched on pecan March 28-29. The species is somewhat less abundant than normal. To date, no spotting of leaves has been observed on pecan or hickory. First adults matured April 13 and were numerous April 15.

J. B. Gill (April 25): This insect is reported moderately abundant on pecans at Albany.

Alabama J. M. Robinson (April 25): With the temperature rising to above 80 degrees for a period of eight days, the insects have emerged in rather large numbers. The winged forms of the black pecan aphid are present on pecan foliage at Auburn.

Mississippi

J. P. Kislanko (April 21): The first fundatrix collected was on April 9 on a Schley pecan tree near a stable at Wiggins. On April 16 late forms were plentiful on Schley trees near farm buildings. On this day one larva was collected from the lower side of a leaflet which showed a characteristic yellow injury.

AN APHID (Monellia costalis Fab.)

Georgia

T. L. Bissell (April 23): First aphids were found April 4 and first adults April 16 - 23. This species is rare.

AN APHID (Monellia nigropunctata Gran.)

Georgia

T. L. Bissell (April 23): First aphids hatched on pecan March 29. First adults were present April 15 and adults were common April 23.

CITRUS

CITRUS APHID (Aphis spiraecola Patch)

Florida

J. R. Watson (April 26): Aphis spiraecola has been brought under control by Empusa over all the southern part of the State.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida

J. R. Watson (April 26): The citrus whitefly is moderately abundant in all the citrus belt. It is emerging in moderate numbers, but emergence is late.

Georgia

J. B. Gill (April 25): The citrus whitefly is moderately abundant at Cairo and in southern Georgia generally. The first adults were observed on Satsuma oranges on April 9.

PURPLE SCALE (Lepidosaphes beckii Newm.)

Georgia

J. B. Gill (April 25): The purple scale is scarce at Cairo, on Satsuma orange.

Florida

The purple scale is moderately abundant over all the citrus belt.

Mississippi

R. W. Harned and assistants (April): The purple scale is moderately abundant on citrus in the southeastern part of the State.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Georgia

J. B. Gill (April 25): Infestations of the cottony-cushion scale have been found in various localities in Georgia, including Valdosta, Cairo, Cordele, and Sylvester. The Australian lady beetle has been colonized in the four localities mentioned.

TRUCK - CROP INSECTS

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Virginia P. J. Chapman (April 22): The seed corn maggot is moderately abundant at Norfolk.

North Carolina W. J. Reid (April 15): Injury to freshly planted seed potatoes has apparently been as general in the Charleston district as during the past two seasons, but the number of the insects has been slightly less. Freshly planted potato seed pieces were attacked by the maggots during the entire month of March and to the middle of April, by which time all larvae had pupated. The infestation was as high as 50 per cent in many fields. The insect has been found to be closely associated with seed-piece decays.

W. J. Reid (April 4): The seed corn maggot has been unusually destructive to snap beans in the Charleston district during the past three weeks. Weather conditions have delayed germination of the seed and growth of the seedlings, and these conditions have apparently favored the insect. The maggots attacked the cotyledons, plumules, and stalks of the seedlings. Beans planted in land containing considerable decaying organic matter have suffered most from the insect. In a field planted in beans immediately following a spinach crop at least 75 per cent of the seed or seedlings were attacked. In this particular field a count of a representative number of hills in different parts of the plot showed that 34 per cent of the hills were either entirely missing or the plants so seriously injured that they were dying. It is entirely possible that many other plants will die because of injury to their roots.

Missouri L. Haseman and P. H. Johnson (April 22): Only one report has been received and that on April 22 from the Kansas City area.

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi R. W. Harned (April 22): Although the vegetable weevil has continued to attract some attention during the past month, only a few complaints have been received at this office regarding it during the month of April as compared with the large number of complaints received during March. A correspondent at Gloster reported on April 4 that the vegetable weevil was causing much injury to all kinds of garden plants. A correspondent at Durant reported on April 19 that a number of specimens were found beneath ornamental plants on her property. Serious injury to turnips at Yazoo City was reported on April 21.

SPOTTED CUCUMBER BEETLE (Diabrotica undecimpunctata Fab.)

- Georgia J. B. Gill (April 25): The spotted cucumber beetle is moderately abundant at Thomasville, doing some damage to beans and corn.
- Florida J. R. Watson (April 26): The spotted cucumber beetle is moderately abundant.
- Alabama J. M. Robinson (April 21): The spotted cucumber beetle is moderately abundant at Auburn.
- Mississippi R. W. Harned and assistants (April): This insect, although reported from practically all parts of the State, is generally less abundant than usual.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

- Mississippi R. W. Harned (April 22): Serious injury to mustard was reported from Senatobia, on March 31.

FLEA BEETLES (Halticinae)

- Alabama J. M. Robinson (April 25): Flea beetle larvae have been destroying turnip leaves at Guin.
- Mississippi R. P. Colmer (April 19): Black flea beetles are abundant on egg plants, peppers, and tomatoes around Moss Point.

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty)

- Kentucky W. A. Price (April 25): Mole crickets were received at the laboratory April 5 from Powell County. A potato grower stated they destroyed 80 per cent of the tuber crop last year.
- Alabama J. M. Robinson (April 25): Mole crickets have been reported as active at Vredenburgh and at Cullman.
- Kansas E. L. Parker (April 23): Mole crickets reported at Miltonvale.

PILLBUGS (Oniscidae)

- Mississippi R. W. Harned (April 22): Pillbugs (species not definitely identified) were reported as injuring Easter lily and tomato plants at Gulfport on March 14. A correspondent at Rosedale reported on April 16 that they were causing serious injury to plants in her vegetable garden.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

mont

H. L. Bailey (April 18): The Colorado potato beetle will be moderately abundant throughout all districts, based on observations last summer.

th Carolina

W. J. Reid (April 21): Adults were first observed on potato plants in the Charleston district on April 5. Eggs were seen during the following week, the second week of April, and larvae appeared during the third week of April. The observations of the writer indicate that the insect is slightly more abundant than at this time last season.

rgia

J. B. Gill (April 25): The Colorado potato beetle is moderately abundant at Thomasville, Pelham, and Albany, attacking Irish potatoes and young tomato plants.

nesota

Mr. Oesburg (April 20): The Colorado potato beetle is very abundant in Clay County.

bama

J. M. Robinson (April 21): The Colorado potato beetle is moderately abundant at Auburn.

issippi

R. W. Harned and assistants (April): Reports indicate that this insect is very abundant in the southeastern corner of the State and moderately abundant to scarce in the northern half.

K. L. Cockerham (April 8): On April 8 I found the first adult Colorado potato beetle of this season.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

mont

H. L. Bailey (April 18): The potato leafhopper will be very abundant throughout all districts judging from observations last summer.

souri

L. Haseman and P. H. Johnson (April 21): The potato leafhopper is reported at Central; crop not yet up.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

aware

L. A. Stearns (April 16): First adults of the cabbage butterfly observed at Wilmington.

souri

L. Haseman and P. H. Johnson (April 21): Imported cabbage worm reported at Columbia; butterflies abundant, not yet on cabbage.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Georgia J. B. Gill (April 25): The harlequin bug is scarce in Albany and Thomasville.

Alabama J. M. Robinson (April 21): The harlequin bug is very abundant at Auburn.

Mississippi R. W. Harned (April 22): The first complaint in regard to the harlequin bug received at this office during 1930 came from Crystal Springs on April 2. A correspondent at that place reported it as fairly abundant in his cabbage field. On April 7 a correspondent at Columbus reported injury to turnips and mustard.

R. W. Harned and assistants (April): Reports from scattered localities indicate that the harlequin bug is normally abundant. It is reported as attacking onions, turnips, cabbage, and collards in Greene County.

Alabama J. M. Robinson (April 25): The harlequin bugs have emerged in rather large numbers in the last 10 days. Eggs are being deposited.

CABBAGE APHID (Brevicoryne brassicae L.)
TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Alabama O. T. Deene (March 13): In a field of about 300 acres of cabbage there was a general infestation of these aphids. A heavier infestation seemed to occur in low spots. The infestation was such as to cause dusting by the owner. Of the two aphids found, the cabbage aphid was much more prevalent than the turnip aphid.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

New York Weekly News Letter; N.Y. State Coll. Agri. (April 28): Suffolk County (W.G. Been) - Cabbage root maggot flies are beginning to deposit eggs.

STRAWBERRY

A BUPRESTID (Chrysobothris sp.)

Washington W. M. Baker (April 8): For the first time larvae of this species were taken in the crown of wild strawberry at Tacoma. In some places fully half the plants examined had been burrowed, but only 3 larvae were taken.

This is the insect to which the notes on Chrysobothris pubescens Fall in the "Insect Pest Survey Bulletin, Vol. 9, No. 4, page 104 and 138, and No. 10, page 402, and Vol. 10, No. 1, page 27," refer.

Mr. Baker states that he has just received a paratype

from Prof. Fall and it is not pubescens. The species is probably a new species and Mr. Fisher says he will describe it as soon as he has looked over some of the other descriptions. (J. A. Hyslop.)

STRAWBERRY WEEVIL (Anthonomus signatus Say)

th Carolina W. A. Thomas (April 14): The strawberry weevil has been unusually destructive in both the Chadbourn and Burraw districts this season, owing to the prolonged cold spring and corresponding late setting of fruit. Weevil emergence began on March 10, but there was little field activity until April 4. Since this date some fields have almost ceased blooming, owing to weevil injury.

A BEETLE (Tyloderma morbillosa Lec.)

ington Wm. W. Baker (April 10): Adults feeding on the leaf and also the petiole; the eggs are laid in the punctures on the petiole but so far no eggs have been observed; specimens were taken while mating, however. (April 16): Eggs were obtained today from caged females in the laboratory; no opportunity for field observations today.

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

ington Wm. W. Baker (April 10): Adults of this species are found to be quite numerous but very few larvae have been found, which is rather different from what we usually find at this time of the year. Adults were also reported to be very abundant in new fields close to clover sod at Vancouver, but no statements were made in regard to the numbers of larvae in the sod.

A WEEVIL (Dyslobus decoratus Lec.)

ington Wm. W. Baker (April 11): This species is very abundant around strawberry plants set this spring in some fields at Grand Mound, particularly so in fields bordering timber and brush.

A DARKLING BEETLE (Coniontis sp.)

ington Wm. W. Baker (April 11): Eating foliage and buds of the new and old plants at Rochester.

A FALSE WIREWORM (Elcodes sp.)

ington Wm. W. Baker (April 11): This species has been found to eat the leaves and new buds of strawberry in both old and new plantings, at Rochester.

GREEN JUNE BEETLE (Cotinis nitida L.)

Mississippi R. W. Harned (April 22): A correspondent at Tylertown, sent to this office on April 7 several larvae with the statement that the farmers in that vicinity were finding them injuring strawberries.

A CURCULIONID (Geoderces melanothrix Kby.)

Washington Wm. W. Baker (April 11): This is the first time the writer has found this pest in numbers in strawberry fields, four and five being fairly common around new plants set out this spring, and some old plants were examined which were evidently killed or nearly killed by the grubs last season.

STRAWBERRY APHID (Aphis forbesi Weed)

Mississippi H. Gladney (April 16): Strawberry aphids are moderately abundant at Ocean Springs.

RED SPIDER (Tetranychus telarius L.)

Mississippi H. Gladney (April 16): The red spider is moderately abundant on strawberries at Ocean Springs.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Indiana J. J. Davis (March 31): The asparagus beetle has been reported as a pest at Rossville in past few years. Growers generally seem to have difficulty in handling this insect.

Oregon D. C. Mote (April 21): B. G. Thompson reports that asparagus beetles are very numerous.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Georgia C. H. Alden (April 21): A few beetles are emerging at Cornelia.

Indiana J. J. Davis (April 28): The Mexican bean beetle is moderately abundant in the southern half of Indiana.

Alabama J. M. Robinson (April 25): Inquiries are coming in for information regarding the control of the Mexican bean beetle.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Mississippi

J. P. Kislanko (April 21): The bean leaf beetle is quite abundant in the vicinity of Wiggins and Perkinston, producing rather heavy injury to foliage of bunch beans in gardens and somewhat heavier injury to cowpeas in the fields.

R. P. Colmer (April 19): Bean leaf beetles are eating large holes in snap bean foliage. Mostly young beetles are in the fields, in the eastern half of Jackson County.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Virginia

P. J. Chapman (April 22): The first specimens of the striped cucumber beetle, though scarce, were found feeding on willow pollen April 18, at Norfolk.

Florida

J. R. Watson (April 26): The striped cucumber beetle is very abundant in the Everglades only.

Missouri

L. Haseman and P. H. Johnson (April 21): The striped cucumber beetle is not yet in evidence. One was found on fruit blossom April 13.

Alabama

J. M. Robinson (April 21): The striped cucumber beetle is scarce at Auburn.

Mississippi

R. W. Harned and assistants (April): Considerable damage is being done by this insect in the southern part of the State.

PICKLE WORM (Diaphania nitidalis Stoll)

Alabama

J. M. Robinson (April 25): Inquiries are coming in for information regarding the control of cantaloupe and pickle worms.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Mississippi

C. Hines (April 19): Squash bugs are very abundant at Yazoo City.

Idaho

C. Wakeland (April 22): The squash bug was collected at Payette, in 1929 by a student of the department. He reported it as destroying the squashes and pumpkins. This is the first record of the insect in Idaho.

TURNIPS

TURNIP APHID (Aphis pseudobrassicae Davis)

Indiana J. J. Davis (March 31): Turnip aphids are the most serious pest attacking cultivated turnips, and apparently growers are experiencing more trouble each year. One grower who sows 20 or more acres in Marion County advises that there was hardly a turnip or Sutton radish raised in his vicinity last fall because of these aphids.

Mississippi R. W. Harned and assistants (April): This insect is reported as moderately abundant in the territory surrounding Cleveland and very abundant in a district in the east-central part of the State.

GARDEN WEBWORM (Loxostege similalis Guen.)

Mississippi H. Dietrich (April 19): Webworms made their appearance on turnips at Lucedale April 14.

BEETS

BEET LEAFHOPPERS (Eutettix tenellus Baker)

Utah G. F. Knowlton and M. Janes (April 3): The beet leafhoppers are slightly more abundant around Grantsville and west than a year ago at this time. A few were collected at Low, Delle, and in Skull Valley also. (April 10): Beet leafhoppers are fairly abundant west of Kelton at the present time. (April 19): The beet leafhopper is slightly more abundant in its breeding grounds in Tooele and Box Elder Counties. (April 24): Beet leafhoppers are now present in sugar-beet fields west of Garland and a few specimens were taken at Bothwell and Tremonton. The beets are now in the two to six leaf stage, and thinning is just started.

HOP FLEA BEETLE (Psylliodes punctulata Melsh.)

Utah G. F. Knowlton (April 24): The black hop flea beetle, is abundant in beet fields at Garland, and generally present throughout Box Elder County. In a few fields they are so abundant as to hold back the development of the beets.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

North Carolina C. H. Brannon (April 27): Tobacco in beds and newly set plants on the field show unusually severe damage. The cool spring has been very favorable for flea beetle damage.

J. N. Tenhet (April 19): A few complaints are coming in of tobacco flea beetles damaging young tobacco plants in the seed bed.

Mississippi

F. A. Smith (April 23): The tobacco flea beetle is scarce in Tate, De Soto, Tunica, Quitman, and LaFayette Counties.

GARDEN SLUG (Agriolimax agrestis L.)

North Carolina

J. N. Tenhet (April 18): This slug has done much damage to seed beds in the old South Carolina Bright Tobacco Belt. Infestation was more scattered than in 1929, but in many localities injury was serious.

FOREST AND SHADE - TREE INSECTS

PERIODICAL CICADA (Tibicina septendecim L.)

Idaho

H. E. Jaques (April 24): On April 21 nymphs of Brood IV of the periodical cicada were found in Fremont County in their burrows under logs ready for emergence, so we are sure that they will appear in that county at least.

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Indiana

J. J. Davis (March 31): Bagworms were reported abundant on evergreen trees at Pershing. (April 28): Bagworm cocoons reported abundant in a young apple orchard at Burns City.

Missouri

L. Haseman and P. H. Johnson (April 24): Eggs have not yet hatched but overwintering cocoons are abundant at this time.

Delaware

L. A. Stearns (March 30): Bagworms are abundant on quinces.

WHITE-MARKED TUSsock MOTH (Hemerocampa leucostigma S. & A.)

Connecticut

W. E. Britton (April 24): Egg clusters are very abundant on lindens near the railroad station at Waterbury.

GIpsy Moth (Porthetria dispar L.)

Vermont

H. L. Bailey (April 18): The gipsy moth has been found rather plentifully in towns along the Connecticut River from Springfield south to the Massachusetts line. This seems to be the chief area of infestation in Vermont, though at one time the whole State was considered infested, and scattered egg masses and small colonies occasionally are found in other sections.

SATIN Moth (Stilponotia salicis L.)

Washington

Wm. W. Baker (April 16): The larvae of the satin moth have evidently been feeding for several days.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Indiana

J. J. Davis (April 28): The oyster-shell scale is moderately abundant in the northern half of Indiana. It is very destructive and abundant on ash at LaGrange.

Utah

G. F. Knowlton (March 16): The oyster-shell scale is seriously affecting some willow and elm trees on the campus of the Utah State Agricultural College. It is seldom found in damaging numbers on apple, cherry, pear, or plum, in northern Utah, but occurs on a large variety of plants in small numbers.

ELM

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

North Dakota

J. A. Munro (April 25): At Mandan, Bismarck, and Fargo I find the European elm scale fairly common on the elms in the city plantings. This insect was particularly abundant several years ago but practically disappeared until it has again put in its appearance recently.

ELM BORER (Saperda tridentata Oliv.)

Nebraska

M. H. Swenk (April 15): Correspondents have again started inquiring concerning the elm borer.

JUNIPER

A WEEVIL (Pachylobius picivorus Germ.)

Mississippi

R. W. Harned (April 22): Specimens of the pine bark weevil were recently received from Durant and Kosciusko, where they were collected on juniper plants. The extent of injury caused by these weevils was not mentioned.

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

Ohio

E. W. Mendenhall (April 4): I find the juniper stock in one of the nurseries at Painesville (Lake County) badly infested with the juniper webworm. This insect is growing more important on junipers and also is spreading somewhat in its distribution.

OAK

OAK LECANIUM (Lecanium quercifex Fitch)

Alabama

J. M. Robinson (April 25): The oak lecanium scale has been attracting attention in various parts of central and southern Alabama.

CARPENTER WORM (Prionoxystus robiniae Peck)

Indiana J. J. Davis (April 28): The carpenter worm is attacking and damaging white oak at Tyner.

CROWN WHITEFLY (Aleurocanthus coronatus Quaint.)

California E. O. Essig (April 21): The crown whitefly was reported at Paso Robles, April 13, as very abundant on Coast live oak.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Connecticut M. P. Zappe (April 23): This insect has caused considerable injury to red pine and is apparently more abundant than two years ago.

SOUTHERN PINE WEEVIL (Pissodes nemorensis Germ.)

Mississippi H. Dietrich (April 19): Pissodes nemorensis Germ. emerged from Pinus alabra in Pascagoula swamp (George Co.) previous to April 15.

A WEEVIL (Scythropus sp.)

Washington Wm. W. Baker (April 8): Several of the young yellow pine growing on the prairies south of Tacoma were quite heavily infested with a weevil, apparently Scythropus sp., which was eating the needles, especially on the tips of the twigs.

PINE BARK APHID (Chermes pinicorticis Fitch.)

Ohio E. W. Mendenhall (April 18): An outbreak of the pine bark louse was found at Stoutsville, Fairfield County. The trees are very badly infested, and look as though they were white washed.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch.)

Missouri L. Haseman and P. H. Johnson (April 24): The pine needle scale is abundant over the State. The sleet of last winter removed many at Columbia. Eggs just beginning to hatch.

Nebraska M. H. Swenk (April 1 - April 15): During the period here covered inquiries and complaints concerning the pine leaf scale were resumed.

SPRUCE

SPRUCE BUDWORM (Cacoecia fumiferana Clem.)

Wisconsin

E. L. Chambers (April 25): The spruce budworm is moderately abundant. Overwintering larvae are plentiful in southern Wisconsin. The budworm is becoming more serious on our evergreens.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

A TORTRICID (Tortrix citrana Fern.)

Washington

W. W. Baker (March 10): Adults, pupae, and various stages of larvae and eggs of a small moth were found working on greenhouse plants, including geranium (ivy-leaved geranium, Martha Washington, and others), pelargonium, Acacia mimula, cyclamen, lantana, and fuchsia, in Tacoma, March 3.

RED SPIDER (Tetranychus telarius L.)

Mississippi

C. Hines (April 19): The red spider is very abundant on arborvitae at Yazoo City and Rolling Fork.

J. E. McEvilly (April 18): The red spider is abundant on ornamentals at McComb.

SOFT BROWN SCALE (Coccus hesperidum L.)

Alabama

J. M. Robinson (April 25): The soft brown scale has been reported from Foley, attacking Japanese persimmon, also from Columbia, attacking a banana shrub.

A SCALE INSECT (Saissetia nigra Nietn.)

Ohio

E. W. Mendenhall (April 26): I find Hibiscus cooperii infested in a greenhouse at Painesville, where some damage is being caused.

LONG SOFT SCALE (Coccus elongatus Sign.)

Ohio

E. W. Mendenhall (April 12): An outbreak on cactus in one of the greenhouses in Springfield.

ARBORVITAE

AN APHID (Dilachnus thujaefolia Theob.)

Mississippi

R. W. Harned (April 22): Dilachnus thujaefolia was received from Mendenhall, Corinth, and Picayune, where it was reported as seriously infesting arborvitae plants.

H. Dietrich (April 19): This insect is present on all arborvitae at Lucedale, but coccinellids seem to be keeping them down.

CEDAR

DEODAR WEEVIL (Pissodes deodarae Hopk.)

Mississippi

R. W. Harned (April 22): Complaints in regard to injury caused by weevils belonging to the genus Pissodes to Cedrus deodara plants continue to pour in from all sections of the state. Apparently these insects are attracting a great deal of attention.

WHITE PINE WEEVIL (Pissodes strobi Peck)

Alabama

J. M. Robinson (April 25): The white pine weevil has been active at Tuscaloosa in ornamental shrubs.

FERN

FERN SCALE (Hemichionaspis aspidistrae Sign.)

Mississippi

H. Dietrich (April 19): The fern scale is very bad on ferns in Greene County where the owner had wintered plants in a pit. The scale had evidently multiplied all winter.

IRIS

CRANE FLIES (Tipulidae)

Missouri

K. C. Sullivan (April 23): The crane fly larvae are reported from Jackson County as feeding on iris.

IVY

FLORIDA RED SCALE (Chrysompholus ficus Ashm.)

Illiana

J. J. Davis (March 31): The ivy scale has been reported abundant on Boston ivy at LaPorte.

JASMINE

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Mississippi

R. W. Harned and assistants (April): The citrus whitefly is moderately abundant on cape jasmine and other ornamentals in many parts of the State.

NARCISSUS

LESSER BULB FLY (Eumerus strigatus Fallen)

Oregon J. Wilcox (April 21): The lesser bulb fly began emerging April 14 at Corvallis.

NARCISSUS BULB FLY (Merodon equestris Fab)

Oregon J. Wilcox (April 21): The greater bulb fly began emerging April 17 at Corvallis.

ROSE

POTATO APHID (Illinoia solanifolii Ashm.)

Mississippi R. W. Harned (April 22): Aphids on rose, were received from Meridian on April 2, and from Jackson and Natchez on April 3.

A SCARABÆID (Diplotaxis sp.)

Mississippi R. W. Harned (April 22): Beetles belonging to the genus Diplotaxis were received on April 9 from a correspondent at Lucedale, who wrote as follows regarding them: "They have been working on my rose bushes for the last three years. The first we noticed is that the leaves are eaten off. This is done at night. They are in the ground around the roots."

SPIRÆA

SPIRÆA APHID (Aphis spireacola Patch)

Mississippi R. W. Harned (April 22): Injury to spiræa by Aphis pomi (spireacola) was reported from Kosciusko, Durant, and Meridian.

T. F. McGehee (April 19): Green aphids are very abundant on spiræa bushes in Marshall, La Fayette, and Benton Counties; also aphids are very abundant on spiræa bushes.

C. Hines (April 19): Green aphids are very abundant on rose, spiræa, etc., at Yazoo City and Canton.

H. Dietrich (April 19): Green aphids are very abundant on Rosaceae, nersims, roses, apple, etc., in George and Perry Counties. Also very abundant at Hattiesburg April 9 on all Rosaceae in garden.

VERONICA

A FLY (Dolichopus ramifir Loew)

Ohio

E. W. Mendenhall (April 26): This insect seems to feed on the veronica plants in the greenhouse at Painesville, but I have not ascertained how much damage it is doing. The grower thinks there is some injury.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

North Carolina

W. A. Thomas (April 13): In traveling from Chadbourn, N. Car., to Florence, S. Car., it was observed that thousands of dragonflies were operating along the highway over the hard surface, attacking mosquitoes and other insects. In many places these insects were so abundant as almost completely to cover the front of radiators of passing automobiles. Most of their activities seemed to be confined to the area just above the hard surface. In some places the dead bodies of these insects were thickly scattered over the roadway, having been killed by passing motorists.

Mississippi

H. Gladney (April 16): Mosquitoes are moderately abundant at Ocean Springs.

F. P. Ansler (April 17): Mosquitoes are moderately abundant in Hancock and Harrison Counties.

Utah

G. F. Knowlton (April 10): Mosquitoes are becoming active at Kelton and Kosmo, and a number have been encountered at Logan. (April 23): Mosquito larvae are rather abundant in sloughs west of Corinne.

HOUSE FLY (Musca domestica L.)

Missouri

L. Haseman and P. H. Johnson (April 21): The house fly was very abundant by the middle of April.

Mississippi

H. Gladney (April 16): The house fly is moderately abundant at Ocean Springs.

A BUFFALO GNAT (Eusimulium sp.)

Mississippi

K. L. Cockerham (April 5): These small gnats have been very numerous and annoying for several days. A round dusk a person can hardly remain outdoors.

CLOVER MITE (Bryobia praetiosa Koch)

- Delaware L. A. Stearns (April 11): Infestation is apparently limited to a single property in Dover and to the inside woodwork and windows of the first floor of the house; the outside walls and all shrubs and clover for a distance of 20 feet surrounding the house are infested by thousands of mites. The mites had been entering the house in constantly increasing numbers since the latter part of January.
- Wisconsin E. L. Chambers (April 25): The clover mite is reported very abundant in the vicinity of Whitefish Bay and Milwaukee, crawling about in houses.
- Minnesota A. G. Ruggles (April 17): Many reports of trouble with Bryobia praetiosa bothering the housewives by getting into houses crawling over walls and windows by the millions. It was quite warm early and later turned cold forcing the mites to seek warm places for shelter.

FLEAS (Siphonaptera)

- Indiana J. J. Davis (March 31): Fleas have been reported abundant around the barns for the past year at Monrovia.
- Kansas R. L. Parker (April 23): Fleas are reported at Amsterdam, Mo., in a barn and at Salina, Kans., in a basement.

CATTLE

NORTHERN CATTLE GRUB (Hypoderma bovis DeG.)

- Minnesota A. G. Ruggles (April 17): A report from the Extension Division shows that ox warbles are very common around Plainview, Wabasha County. Of 12 farms visited all were having trouble. One steer had 22 mature larvae.
- J. A. Salisbury (April 24): Ox warbles are emerging in moderate abundance in Kittson County.
- L. Uptograph (April 23): Grubs on cattle are abundant in Houston County.

HORN FLY (Haematobia irritans L.)

- Missouri L. Haseman and P. H. Johnson (April 21): April 14, the horn flies on cattle were more abundant than usual.

POULTRY

BLACK FLIES (Simuliidae)

- Indiana J. J. Davis (April 28): One of the black flies was reported very abundant and troublesome to poultry at Cromwell April 19.

HOUSEHOLD AND STORED -

PRODUCT INSECTS

TERMITES (Reticulitermes spp.)

- North Carolina C. H. Brannon (April 24): The County agent of Wayne County writes, "There has been considerable excitement here the last few days because of the damage to residences by termites."
- Georgia J. B. Gill (April 25): Termites have caused serious damage to the building of the public library at Albany, and have also eaten into some bound books, making them unfit for further use.
- Indiana J. J. Davis (March 31): Termites were reported damaging woodwork of dwellings at Shelbyville, Linden, and Anderson. (April 28): Termites are reported abundant at Terre Haute, La Fayette, and Williamsport. The winged migrants were abundant during April.
- Illinois S. C. Chandler (April 15): A number of reports have been sent in concerning termite swarms in houses and several cases of severe damage, one to a house built less than three years ago, have been reported.
- Alabama J. M. Robinson (April 21): Termites are reported to be in Fort Payne, Montgomery, and Anniston.
- Nebraska M. H. Swenk (April 15): Several new cases of infestations of houses with the termite Reticulitermes tibialis Bks. were received during the period here covered, from Plattsmouth and Kearney, the situation in the latter city having developed to serious proportions.
- Kansas R. L. Parker (April 23): Termites are reported in Chanute, LaCyne, Jamestown, Clay Center, Otis, Hay, Manhattan, New Albany, Sabetha, Goodrich, Beloit, and Wilson in houses, hospitals, and other buildings.
- Mississippi R. W. Harned (April 22): Many complaints have been received recently in regard to termites. The emergence of winged forms has attracted much attention.
- Mississippi ARGENTINE ANT (Iridomyrmex humilis Mayr)
- Mississippi R. W. Harned and assistants (April): The poisoning campaign in 1929 has very materially reduced this insect at McComb.
- Mississippi M. R. Smith (April 20): A colony of Argentine ants was found nesting in a rotten root of a tree at Cedar Bluff along with a termite colony. This incident is mentioned because there is an erroneous impression among some people in Mississippi

that the Argentine ant is predacious on termites, and also on cotton boll weevils. Our observations so far have failed to confirm either of these ideas. Argentine ant male and female pupae were found in a nest on April 19 at Columbus. These are the first sexed pupae found this spring. That the Argentine ants move their colonies in the spring has been clearly brought out in several cases at Columbus, where colonies that were located in certain spots six weeks ago can not be found there on April 19. Inspector J. P. Kislanko has thoroughly scouted the original area infested by the Argentine ant at Wiggins, but has been unable to find any trace of Argentine ants there. He reports that many native species are now occupying the area. Mr. G. W. Haug has found several workers of Strumigenys pulchella Emery in the nest of Argentine ants at Ackerman.

FIRE ANT (Solenopsis geminata Fab.)

Mississippi

J. E. McEvilly (April 18): Fire ants are abundant in dwellings at McComb.

R. B. Deen (April 11): Fire ants are very abundant in flower beds at Union, Lee, Itawamba, and Pontotoc Counties.

ANTS (Formicidae)

Indiana

J. J. Davis (April 28): House ants were reported troublesome from Bloomington, Logansport, and Seymour. Also abundant in lawns at La Fayette and Bloomington.

Mississippi

M. R. Smith (April 20): Mr. R. M. Lancaster, County Agent, recently brought to us from Maben some ants which were falling into a well in such numbers as to cause the water to both taste and smell bad. The ants proved to be one of the legionary ants, Eciton pilosus Smith. This species is highly carnivorous. The food of the ants consists largely of termites and the immature and mature stages of many ants.

Nebraska

M. H. Swenk (April 15): As usual during early April, there have been many complaints of injury in lawns and annoyance in houses by black ants, Formica fusca L.

Texas

R. L. Parker (April 20): Lasius interjectus Mayr is reported in Olathe in a house (basement).

Nebraska

M. H. Swenk (April 15): As usual during early April, there have been many complaints of injury in lawns and annoyance in houses by the common large carpenter ant Camponotus herculeanus pennsylvanicus DeG.

A BEE (Ceratina sp.)

Washington

Wm. W. Baker (April 15): Adults, apparently some species of Ceratina were sent in from Winlock, stated to have emerged from the inside walls of a dwelling house; also reported to be working in the shingle siding.

ORIENTAL COCKROACH (Blatta orientalis L.)

Kansas

R. L. Parker (April 23): Black cockroaches are reported to be in Hutchinson, Abilene, and Wichita in houses.

SILVERFISH (Lepisma saccharina L.)

Indiana

J. J. Davis (April 28): The silverfish was reported abundant and infesting a medical clinic at Garrett.

Kansas

R. L. Parker (April 23): The silverfish is reported at Wichita in curtains.

FIRE BRAT (Thermobia domestica Pack.)

Nebraska

M. H. Swenk (April 15): The fire brat, infesting apartments in a town in Nemaha County, was one of the household pests complained of during the first half of April.

WEBBING CLOTHES MOTH (Tineola biselliella Hum.)

CASE-BEARING CLOTHES MOTH (Tinea pellionella L.)

New York

Wm. Moore (April 22): These parasites were bred from the webbing clothes moth, collected in Yonkers, in an unheated storage plant, February 12. This same species was taken about January, 1929, in Chappaqua, in an unheated room. In this case it was bred from both species of clothes moth. (Determined by R. A. Cushman as Apanteles carpatus Say).

MEDITERRANEAN FLOUR MOTH (Ephestia kuehniella Zell.)

Utah

G. F. Knowlton (April 10): The Mediterranean flour moth is causing damage in a stored food plant at Logan.

POWDER POST BEETLES (Lyctus planicollis Lec.)

Alabama

J. M. Robinson (April 25): Powder post beetles were reported attacking an oak dining-room table in Mobile.

LARDER BEETLE (Dermetes lardarius L.)

Kentucky

W. A. Price (April 25): Larder beetles are plentiful in smokehouses at Versailles.

Indiana

J. J. Davis (April 28): The larder beetle was sent in from Shelbyville April 11 with report that it was seriously attacking cured meats.

DRUG-STORE WEEVIL (Sitodrepa panicea L.)

Washington S. E. Crumb (April 11): Larvae were fairly numerous beneath wall paper in a house at Puyallup. The exit holes of the beetles had so marred the paper over the whole house that the paper was being removed.

TOBACCO BEETLE (Lasioderma serricorne Fab.)

Nebraska M. H. Swenk (April 15): The tobacco beetle in stuffed furniture in dwellings in Jefferson and Gage Counties was one of the household pests complained of during the first half of April.

CARPET BEETLE (Anthrenus scrophulariae L.)

Indiana J. J. Davis (April 28): The carpet beetle was reported damaging a mohair living room suite at Fort Wayne.

Kansas R. L. Parker (April 23): The carpet beetles are reported in Lincoln in woolen goods and feathers.

A NITIDULID (Carpophilus antiquus Melsh.)

Alabama J. M. Robinson (April 25): Some nitidulid larvae were developing in cotton seed at Notasulga. The adults proved to be Carpophilus antiquus.

WHITE-MARKED SPIDER BEETLE (Ptinus fur L.)

Kansas R. L. Parker (April 23): The spider beetle is reported at Chanute in a house.

PEA WEEVIL (Mylabris pisorum L.)

Wisconsin E. L. Chambers (April 25): The usual number of requests for the control of pea weevils have been received.

Utah G. F. Knowlton and M. Janes (April 3): Pea weevils are damaging seed peas at Providence.

CADELLE (Tenebroides mauritanicus L.)

Indiana J. J. Davis (April 28): Cadelle larvae are attacking seed corn in storage at Richmond.

BEAN WEEVIL (Mylabris obtectus Say)

Wisconsin E. L. Chambers (April 25): The usual number of requests for the control of bean weevils have been received.

THE INSECT PEST SURVEY
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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR MAY, 1930

The usual spring damage by cutworms is being reported from the greater part of the country. The army-cutworm outbreak in western and central Nebraska continued well into late April. Towards the end of May damage by the pale western cutworm was reported from parts of Montana.

Wireworms were reported as more or less troublesome from practically all parts of the country. In south-central and southern Illinois several thousand acres of corn had to be replanted on account of the depredations of these insects and in parts of South Dakota similar serious damage is being reported.

The recently discovered wireworm Heteroderes laurentii Guer. was reported as pupating in late April and early May, pupation continuing throughout the month.

An epidemic of the flower thrips is reported from Michigan, principally damaging fruit.

The Hessian-fly situation has not changed materially since our last report. Unfavorable weather gave this insect a decided setback in western and central Illinois.

Mormon crickets are appearing in very threatening numbers in Sanders County, Mont., a county in which severe outbreaks occurred in 1926 and 1927.

The corn ear worm is now appearing quite commonly in southern Mississippi and southern and central Texas.

Throughout the East-Central States damage by sod webworms to corn is quite general. Similar damage is also reported from Kentucky, Missouri, and Iowa.

A rather unusual outbreak of the southern corn leaf beetle (Myocbrous denticollis Lec.) is reported from Indiana. In one field 90 per cent of the corn was eaten off below the ground by these beetles. Similar damage is being reported from Kentucky.

The pear midge emerged in large numbers in the pear-growing portion of the Hudson River Valley, New York State, and will probably do serious damage where control measures are not applied.

During the early part of May practically all of the mature larvae of the oriental fruit moth pupated and a large percentage of adults had emerged by the middle of the month. Twig injury was observed in western New York during the third week in the month, and toward the end of the month similar injury was appearing in Connecticut. In Maryland the peak of emergence occurred about the 1st of the month. In the Georgia fruit belt the infestation appears to be the lightest since the insect became established in the Fort Valley district, and here it also appeared later than in previous years. In the East-Central States Illinois reported from 40 to 50 per cent of the peach twigs injured by May 10, in Pulaski County. The fruit moth has also been reported as appearing in appreciable numbers in Ohio, Indiana, Michigan, Kentucky, and the northern and north-central parts of Mississippi.

The first plum curculio observed to leave peach drops in the Fort Valley district of Georgia was recorded on April 28, about two weeks later than usual. There will, therefore, probably be very little damage except to late varieties. In the East-Central States, particularly in the southern part, the plum curculio is seriously damaging apples. The stone fruits were practically a failure in this region, which may account for the unusual damage to apples.

The rusty plum aphid was reported as unusually abundant in the Fort Valley district of Georgia and in southern Mississippi. It was also recorded from Nebraska and Utah.

An infestation of the grape phylloxera was discovered in two San Gabriel vineyards in southern California. Every effort is being made to eradicate this insect.

Rather serious infestations of pecans by the pecan nut case bearer were reported from Albany, Ga., and from Stone and Jackson Counties, Miss.

the

The situation with regard to /citrophilus mealybug in southern California is more favorable than it has been any year since this insect became a major pest in Los Angeles County. Many properties recorded as infested last year are now being reported clean and only a very low percentage of the properties are being reported as heavily infested.

The California red scale is reported as being generally abundant throughout the lower Rio Grande Valley of Texas and present indications are that infestations will be severe.

The vegetable weevil is being reported from several localities in Mississippi, in some cases doing serious damage to tomato plants, turnips, and carrots.

The seed corn maggot is reported as seriously damaging potato seed pieces and corn in Ohio, Indiana, Michigan, and Missouri, and doing some damage in Iowa. It was also reported as destroying water-melon seeds in Utah and peas in Minnesota.

The Colorado potato beetle appears to have been favored by the prolonged drought along the north Atlantic Seaboard. Reports of unusual abundance have been received from North Carolina to New York. On May 21 adults of this insect were collected in St. Johns County, Fla. This appears to be the first record of this insect as far south as the Hastings area in this State.

The cabbage aphid is seriously abundant on seed kale in the Norfolk district of Virginia where it may reduce the crop by half.

The weevil Tyloderma morbillosa Lec. is very serious in a number of strawberry fields in western Washington. As high as 50 adults have been found on a single plant and the plants so infested are killed in about a week.

The first emergence of the Mexican bean beetle was observed at Camden, Del., on May 6. In the Norfolk district of Virginia adults were observed in the field on the first of the month.

The pea aphid has been worse on the Eastern Shore of Maryland than it has been for many years.

Heavy stripping of the early foliage of elm by Calligrapha scalaris Lec. is being reported in Webster, Nuckolls, and Furnas Counties in Nebraska.

In the vicinity of Augusta, Me., the larch case bearer has defoliated approximately one-fourth of the larch trees. Many of these trees have been killed by this insect in previous infestations.

A severe infestation of the spruce budworm in the Shoshone National Forest has been under way for three or four years.

The spruce needle miner (Epinotia nanana Treitsche) is reported as seriously affecting spruces in northern Illinois and southern Wisconsin.

Canna leaf rollers are very heavily infesting commercial plantings of cannas in the southern part of Mississippi.

The Argentine ant has been found in three municipal greenhouses in Baltimore, Md.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR MAY, 1930

The wheat stem sawfly is reported to have passed the winter with 100 per cent survival in the central part of Alberta. This pest increased markedly in 1929, and approximately 10 to 15 times as many larvae overwintered last year as in the year previous. Heavy infestations are anticipated this season if conditions remain favorable.

In southern Ontario observations indicate that the winter mortality of larvae of the European corn borer was considerably lower than during the past three years. Given favorable conditions, an increase in infestation may be expected during 1930.

Infestations of the early cutworm, Euxoa tristicula Morr., have been reported from sections of southern Alberta and south-western Saskatchewan. Reports at present available do not indicate any serious or extensive damage.

The tarnished plant bug caused serious damage early in the season to fruit buds in orchards of the Okanagan Valley, British Columbia. Pears were more seriously damaged than apples. This species has been noted as conspicuously abundant in southern Quebec, near Montreal, and in sections of southern Ontario.

A further decline in the abundance of budmoths, notably the eye-spotted budmoth, is indicated in the Annapolis Valley, Nova Scotia.

Eggs of the European red mite were more prevalent than usual in practically all sections of the Annapolis Valley, Nova Scotia, and were also considerably in evidence in orchards in sections of New Brunswick. The eggs were hatching on May 9. In the Annapolis Valley it is believed that this mite will probably be one of the worst orchard pests of 1930.

Eggs of the European apple sucker commenced to hatch in the Annapolis Valley, Nova Scotia, on May 10. This species is reported to be more numerous in the valley than for several years and is widespread throughout the entire fruit district.

Tent caterpillars are again reported very numerous on Vancouver Island and in the lower Fraser Valley, British Columbia. They are also noted as on the increase in sections of Prince Edward Island and New Brunswick.

The larch case bearer was exceptionally abundant on larch, in Ontario, in the early part of May, causing conspicuous foliage injury.

A severe infestation of ticks affecting cattle, occurred in the interior of British Columbia, this spring, and many cases of tick

paralysis were reported from the Nicola Valley, Ashcroft, and the Marron Valley, during April. In the Nicola district several hundred head were sick and in various stages of paralysis, and a number died as a result of the tick infestation. Blow flies also caused much trouble. The recently dehorned cattle, when paralysed by the ticks, fell on the stony hillsides and broke open the healing wounds, thus giving access to the flies. The heads of many of the cattle consequently contained masses of maggots right into the core of the horns.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Florida J. R. Watson (May 20): Grasshoppers are more abundant than usual. Acrida microptera Burm. is very abundant.
- Minnesota J. W. Ruggles (May 26): Grasshopper eggs are just hatching at Silver Creek and Zumbro Heights. The cold rain about two weeks ago killed many.
- R. O. Bille (May 5): Grasshoppers are moderately abundant in Scanville, Morrison County.
- South Dakota A. L. Ford and H. C. Severin (May 20): Grasshopper eggs are very abundant and are hatching in the western part of the state in limited numbers.
- Iowa H. E. Jaques (May 22): Grasshoppers are moderately abundant in Calhoun, Pottawattamie, Union, Davis, Jefferson, Henry, and Lee Counties.
- Nebraska M. H. Smerk (May 13): Grasshoppers (Melanoplus differentialis Thos.) started hatching in abundance on May 8 in south-eastern Nebraska. In some cases they were so numerous that poisoned bran bait had to be spread immediately to protect vegetable and flower gardens.
- Oklahoma L. E. Stiles (May 5): Grasshoppers are scarce in central Oklahoma.
- Mississippi R. E. Harned and assistants (May): Grasshoppers are reported as moderately abundant in Monroe, Yazoo, and Stone Counties, and Rumex microptera Burm. is moderately abundant at Gulfport and Ocean Springs.
- Montana W. B. Mabee (May 20): No reports of hatched grasshoppers have yet been received.
- Utah G. F. Knowlton (May 6): Grasshoppers are becoming rather abundant in one place at Payson. (May 19): Second-instar nymphs are moderately abundant on sugar beets in Farmington and Ogden.
- Arizona C. D. Lebert (May 21): Grasshoppers (Melanoplus femur-rubrum DeG. and others) are moderately abundant to very abundant in the Salt River Valley.
- Washington Wm. W. Baker (May 24): Grasshopper eggs are moderately abundant at Tacoma and are just beginning to hatch.

CUTWORMS (Noctuidae)

Massachusetts

J. V. Schaffner, jr. (May 23): Many reports have been received from Melrose and vicinity of the large amount of damage being done in small vegetable and flower gardens.

New York

Weekly News Letter, N. Y. State Coll. Agr. (May 26): What few cabbage plantings there are in Dutchess County have shown considerable damage from cutworms.

Virginia

P. J. Chapman (May 31): Cutworms are scarce at Norfolk.

Florida

E. W. Berger and G. B. Merrill (May 20): Cutworms are very abundant on lawn grass in Silver Springs.

Ohio

T. H. Parks (May 21): Cutworms were reported moderately abundant and damaging tomatoes in commercial plantings growing in Auglaize County. They do not appear to be more abundant than usual in cornfields.

Indiana

J. J. Davis (May 22): Cutworms have been reported numerous in many sections of the state. Specific records as follows: At Muncie, Marion, and Liberty, attacking corn; at Indianapolis and Culver, attacking garden plants; at Fort Wayne, damaging tomato, cabbage, and carrots; and cabbage and tomato at Remington. These reports were received during the interval April 29-May 19.

Illinois

W. P. Flint (May 19): As is to be expected with the general early planting of corn, reports of cutworm damage are coming in from various parts of the State, particularly the central part. From specimens received, the black cutworm (Agrotis ypsilon Rott.) and the clay-backed cutworm (Feltia gladiaria Morr.) are the two most common. A few common armyworms (Cirphis unipuncta Haw.) have also been sent in with the cutworms.

Kentucky

W. A. Price (May 21): Cutworms are moderately abundant over the State; on corn principally.

Minnesota

A. G. Rugles and assistants (May): Reports from Martin, Hennepin, Morrison, Fillmore, Chisago, and Dakota Counties indicate that cutworms are moderately abundant.

South Dakota

A. L. Ford and H. C. Severin (May 20): Cutworms are moderately abundant over the entire State and doing much damage to gardens in eastern South Dakota.

Iowa

H. E. Jaques (May 22): Cutworms are reported as moderately abundant on corn, garden crops, etc., in Floyd, Johnson, Jefferson, Henry, Decatur, and Pottawattamie Counties and very abundant in Fayette, Clayton, Buchanan, Jackson, Louisa, Davis, Union, Cass, Audubon, Boone, and Calhoun Counties.

- Missouri L. Hoseman (May 27): Cutworms are moderately abundant at Columbia. Some cornfields are severely damaged.
- Nebraska M. H. Swenk (May 13): Army cutworms (Euxoa auxiliaris Grote) continued troublesome in western and central Nebraska until a little after the middle of April. The last reports were received April 16 from Dawson County where they were still injuring the alfalfa fields. Other cutworms started damaging truck crops about May 7. More than the usual amount of damage to corn is looked for this spring as a result of the prolonged period of cool rainy weather that has prevailed during the last half of April and the first half of May. (May 19): Cutworms of various species are moderately to very abundant in eastern Nebraska.
- Minnesota A. G. Ruggles (May 26): Wireworms are killing flax at Rochester and McIntosh and onions at Princeton.
- Oklahoma C. F. Stiles (May 5): Cutworms are very abundant in western Oklahoma.
- Mississippi R. W. Harned and assistants (May): Cutworms in general are very abundant in some gardens in Tate County, and moderately abundant in the northern third of the State, while Agrotis ypsilon Rott. is moderately abundant in Harrison and Jackson Counties.
- R. W. Harned (May 21): Serious injury to sweet pea plants by cutworms identified by J. M. Lanaston as Lyconhotia margaritosa Haw. was reported from Aberdeen on May 12.
- Montana W. B. Mabey (May 20): The reports of damage from the pale western cutworm (Porosagrotis orthogonia Morr.) are beginning to come in. They have done somewhere between 15 and 20 per cent damage to the wheat in a large area in eastern Jefferson County. The larvae are about half grown, being two to three weeks earlier than normally. Red backed cutworms (Euxoa ochrogaster Guen.) are reported as moderately abundant in Ravalli County.
- Nevada G. G. Schweis (May 20): Reports of cutworm damage in gardens at Reno have reached this office.
- Utah G. F. Knowlton (May 1): Cutworms are damaging beets and carrots southeast of Salt Lake City. (May 3): Only a few farms in Weber County have had enough cutworm damage to beets to require the use of poisoned bait. Cutworms are moderately abundant in Davis and Weber Counties, damaging late planted tomatoes. Some poisoning is done, but in many cases the few lost plants are replaced and no more damage is found. (May 19): Cutworms are moderately abundant in northern Utah, a few instances of damage to tomatoes, beets, etc., being observed

Washington

Wm. W. Baker (May 10): A Euxoa species which was quite destructive in new fields in April has practically ceased feeding. (May 24): Cutworms are moderately abundant at Grand Mound; two species of Euxoa in strawberries and two in black caps.

Oregon

L. P. Rockwood (May 7): Cutworms (Euxoa sp.) have been destructive to garden crops in some localities in the Willamette Valley. Adults of Lycophotia margaritosa Haw. were taken in bait traps at Forest Grove on May 1.

WIREWORMS (Elateridae)

Maine

H. B. Peirson (May 19): Wireworms are moderately abundant; a single outbreak reported at Augusta.

Indiana

J. J. Davis (May 22): Wireworms were damaging corn at Delphi May 13, and reported abundant in plowed ground at Indianapolis May 14, and Liberty Mills May 20.

H. K. Riley (May 20): A wireworm (species undetermined) was found damaging small onions in pickling-onion patches.

Illinois

W. P. Flint (May 19): Wireworms are causing rather severe damage in south-central and southern Illinois. Many reports have come in during the last two weeks giving infestations running from three to eight and ten wireworms per hill of corn over an entire field.

J. H. Bigger (May 17): Wireworms are very abundant. Several thousand acres of corn will be replanted.

Michigan

R. H. Pettit (May 5): Two wireworms (Limonius sp.) were gathered from a field of raspberries at Lawrence near South Haven. These wireworms are accused of destroying many black raspberry patches, that is, the new growth of recently set plants in the sandy loam soil that is very strongly acid. The grower having these worms on his raspberries wrote that he had lost all of his young plants in one part of the field and a good share of the plants in a planting of 5 acres.

Minnesota

A. G. Ruggles and assistants (May): Wireworms are very abundant in a 20-acre field 10 miles east of Royalton, Morrison County, moderately abundant in Dakota and Martin Counties, and scarce in Brown and Chisago Counties.

North Dakota

J. A. Munro (May 21): Under date of May 19, Mr. V. C. Hubbard of the Great Plains Field Station at Mandan reports that wireworm injury to barley in that vicinity has made necessary the reseeding of a number of plots. This is the first report on wireworm activities received this season.

- South Dakota A. L. Ford and H. C. Severin (May 20): Wireworms are moderately abundant in Brown County, causing damage to spring wheat. One man reports 50 per cent of stand gone.
- Iowa H. E. Jaques (May 22): Wireworms are reported as moderately abundant on corn in Clayton, Buchanan, Calhoun, Boone, Pottawattamie and Decatur Counties; and as very abundant in Floyd, Fayette, Union, Davis, Van Buren, Jefferson, Henry, and Louisa Counties.
- Nebraska M. H. Swenk (May 19): Wireworms (Melanotus sp.) are moderately abundant in eastern Nebraska.
- Oklahoma C. F. Stiles (May 5): Wireworms are moderately abundant in western Oklahoma.
- Mississippi K. L. Cockerham (May 9): We have already had one adult Heteroderes laurentii Guer. emerge in the laboratory and have been collecting pupae from the field since the 17th of April. On May 2 and 3 field digging indicated that pupation was about 25 per cent completed at that time. I think that by the 20th adults will be fairly plentiful and at the same time we will be able to find full-grown larvae and pupae and we should have some eggs also.
- H. Gladney (May 15): Wireworms are moderately abundant at Ocean Springs.
- Montana W. B. Mabey (May 20): Wireworms are moderately abundant on wheat in Gallatin County.
- Idaho Claude Wakeland (May 22): The usual large number of complaints are being received about wireworms that are always received at this time of year from the irrigated districts of southern Idaho, and many inquiries for methods of control.
- Canada G. M. Stirrett (May 17): There are four or five acres of land at Chatham, Ontario, infested with wireworms (Limonius sp. and Melanotus sp.) at the rate of 4.5 larvae to the square foot, this average being based on a small number of square-foot counts. This would figure out at 209,088 larvae per acre. The counts were made to a depth of three inches. They apparently did considerable damage last year in the same ground, but it is very difficult to get any previous history regarding the tract.

WHITE GRUBS (Phyllophaga spp.)

- Maryland W. M. Davidson (May 10): Specimens of Phyllophaga hirticollis Knoch and P. inversa Horn were collected from tops of linden and ash trees on the grounds of a golf course at Silver Spring. These beetles, working about sunset, have defoliated the tops of several trees the past few days.

- Ohio T. H. Parks (May 21): White grubs are moderately abundant generally.
- Indiana J. J. Davis (May 22): White grubs were attacking corn and oats in Benton County May 19.
- Michigan R. H. Pettit (May 16): In a number of places in southern Michigan the sad June beetle (P. tristis Fab.) is plentiful. It is appearing in the evening around maple trees and buzzing like a swarm of bees, much to the astonishment of the populace.
- Minnesota A. G. Ruggles and assistants (May): White grubs are moderately abundant in Rock, Le Sueur, Morrison, Fillmore, Chisago, and Dakota Counties. All three stages of the life cycle were found in the same field in Rock County.
- Iowa C. N. Ainslie (May 22): Small larvae from last year's eggs are very numerous in gardens and fields in the vicinity of Sioux City. Full-grown larvae are seen occasionally.
- H. E. Jaques (May 22): White grubs are moderately abundant in Floyd, Calhoun, Boone, Audubon, Cass, Pottawattamie, Decatur, and Johnson Counties, and very abundant in Clayton, Buchanan, Jackson, Keokuk, Jefferson, Henry, Louisa, Davis, and Union Counties on corn, potatoes, strawberries, and in gardens.
- Mississippi R. W. Harned and assistants (May): May beetles are very abundant on various trees at Ocean Springs and moderately abundant on pecan in Marion, Lamar, Forrest, Perry, and Pearl River Counties.
- Nebraska M. H. Swenk (May 13): The first report of injury this spring was received on April 25, this report relating to injury to newly planted grape vines. (May 19): White grubs are moderately abundant in eastern Nebraska.
- Kansas R. L. Parker (May 22): May beetles are reported attacking honeysuckle, japonica, weigelia, and hydrangea, and in lawns at Concordia.
- Texas H. J. Reinhard (May 22): Numerous specimens of P. submucida Lec. and P. crinita Burm. were taken in light traps on May 19 in Hidalgo County. The first specimens of the year of P. torta Lec. and the most abundant species, P. crassissima Blanch. and P. praetermissa Horn, were taken in light traps at College Station. The number of P. praetermissa decreased rapidly after May 10. P. calceata Lec. was very common during the latter half of March and throughout April. Practically no specimens were taken in light traps after May 10 at College Station.

Nevada

G. G. Schweis (April 29): Specimens were sent in by a county agent with remarks that the grubs were attacking potatoes and threatening to become serious in Humboldt County.

ASIATIC BEETLE (Anomala orientalis Waterh.)

Connecticut

R. B. Friend (May 24): More spring injury by grubs than usually occurs is being reported.

JAPANESE BEETLE (Popillia japonica Newm.)

Connecticut

J. E. Britton (May 24): Larvae are moderately abundant in certain areas.

TARNISHED PLANT BUG (Lygus pratensis L.)

Rhode Island

A. E. Stone (May 29): The tarnished plant bug is showing up rather earlier than usual, which may indicate prospects of more or less damage later.

Minnesota

H. C. Donohoe (May 27): The tarnished plant bug is moderately abundant in alfalfa at Buffalo, Harmol, Maple Lake, and Silver Creek.

FLOWER THRIPS (Frankliniella tritici Fitch)

Michigan

R. H. Pettit (May 16): There has appeared in Michigan, apparently all over the State, an epidemic of what we take to be Frankliniella tritici. It is plentiful now on peach, apple, pear, cherry, strawberry, and many other plants. This is the same thrips that years ago produced scabbiness on peaches, a scabbiness which has been confused with the work of the tarnished plant bug. If my identification is right this thrips is known variously as the flower thrips, peach thrips, oat thrips, corn thrips, and wheat thrips.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytonoma destructor Say)

Ohio

T. H. Parks (May 21): Hessian flies are scarce in central counties.

Illinois

W. P. Flint (May 19): Examination of fields known to be very heavily infested have shown that the Hessian fly in western and central Illinois received a severe set-back this spring. Heavy emergence of adults occurred during the warm period from April 10 to 16. This was followed by a cool period, and apparently either the cold weather or rains which occurred during this period had a very detrimental effect on the eggs

and young larvae, as the infestation has been materially reduced over that of last fall in the same fields. Occasional fields, especially in the southwest-central part of the State, showed heavy infestation, but as a rule the spring brood does not cause the normal amount of damage.

souri

K. C. Sullivan (May 23): The Hessian fly is moderately abundant in central Missouri. Heavy in some counties.

braska

M. H. Srenk (May 19): The Hessian fly is very abundant in southeastern Nebraska. Considerable acreage is being plowed up.

sas

R. L. Parker (May 23): The Hessian fly was very abundant on wheat May 18 at Wilson, Ellsworth County.

gon

M. M. Reeher (May 7): Hessian fly "flaxseeds" of the first generation were found April 25, about two weeks earlier than usual. Infestation of winter wheat and early spring-sown wheat by the first spring brood is heavier than normal in Washington and Yankill Counties. Conditions appear favorable for a large and early second spring brood.

WHEAT JOINT WORM (Harmolita tritici Fitch)

gon

T. R. Chamberlin (May 7): The first adults were swept April 17 in the infested region in Clackamas County. This is eight days earlier than the earliest previous record.

FIELD CRICKET (Gryllus assimilis Fab.)

th Dakota

J. A. Munro (May 21): Six black field crickets (all males) were collected in the vicinity of Fargo on May 11; one was an adult, and the other five were in the last nymphal stage. It appears that they had all wintered over as nymphs. Nymphs from overwintering eggs have not been observed as yet.

tana

W. B. Mabee (May 20): Black crickets are unusually abundant on one field of about 7,000 acres of wheat in Big Horn County. They have fed upon the wheat but are not sufficiently abundant to cause serious damage as yet.

MORMON CRICKET (Anabrus simplex Hald.)

ana

W. B. Mabee (May 20): Mormon crickets are very abundant in Sanders County; are on the verge of outbreak numbers. This is the same area in which severe outbreaks occurred during 1926 and 1927.

CORN

CHINCH BUG (Blissus leucopterus Say)

- Missouri K. C. Sullivan (May 23): A few chinch bugs are reported.
- Kansas R. L. Parker (May 22): The chinch bug is scarce in Kansas.
- Arkansas Dwight Isely (May 23): Chinch bugs were observed attacking young corn in central and northeastern Arkansas early in May in Pulaski, Lonoke, Arkansas, St. Francis, Crittenden, and Mississippi Counties.
- Mississippi F. A. Smith (May 18): The chinch bug is very abundant in west Tate County and east Tunica County. They have killed much corn.

CORN EAR WORM (Heliothis obsoleta Fab.)

- Florida E. W. Berger and G. B. Merrill (May 20): The corn ear worm is moderately abundant on dahlia buds in Gainesville.
- J. R. Watson (May 20): The corn ear worm is moderately abundant on corn as a budworm, and on garden peas and tomatoes.
- Alabama J. M. Robinson (May 24): The corn ear worm is very abundant in Onelika; is going from Austrian pea to peach crop.
- Louisiana W. E. Hinds (May 30): The corn ear worm is reported as very abundant in general and is attacking corn especially.
- Mississippi K. L. Cockerham (April 25): The corn ear worm was found damaging corn at Biloxi by eating in the bud of stalks just prior to tasseling.
- R. W. Harned and assistants (May): This insect is moderately abundant on tomatoes at Lucedale, Wiggins, Terry, and Ocean Springs, and on beans at Kreole.
- Texas S. W. Clark (May 12): The corn ear worm is causing considerable injury near Rio Hondo.
- F. L. Thomas (May 15): Worms have been causing injury to green tomatoes at Palestine and Navasota. The tomatoes have been planted on a commercial scale and considerable injury is reported by the growers and county agents.

STALK BORER (Pyrausta nubilalis Guen.)

- Ohio T. H. Parks (May 21): Young stalk borers are already found in corn plants where timothy sod was plowed under in preparation for corn. The borer is moderately abundant on corn in Union County.

Indiana J. J. Davis (May 22): The stalk borer was reported May 19 infesting and destroying Delphinium and hollyhock at LaPorte.

Kansas R. L. Parker (May 22): The stalk borer is scarce; reported on golden elder at Coffeyville May 8.

Minnesota A. G. Ruggles (May 26): The stalk borer is starting to bore into the stalks of corn at St. Paul and Minneapolis.

Missouri L. Haseman (May 27): The common stalk borer is just beginning to attract attention. The small larvae have ruined the stand of corn in many fields in central Missouri and are beginning to attract attention of gardeners and commercial truck crop growers.

Mississippi N. L. Douglass (May 15): The stalk borer is doing considerable damage to tomato plants in Yalobusha County.

SOD WEBWORMS (Crambus spp.)

Ohio T. H. Parks (May 21): Webworms are now seriously damaging young corn plants in many fields of central and western Ohio. They are less than half grown and are causing some farmers to replant. This is the most serious infestation in Ohio since 1926.

Indiana J. J. Davis (May 22): Webworms have been very abundant and destructive to corn over large areas in Union, Wayne, Miami, Grant, Floyd, and Randolph Counties. These reports were received during the period May 11-17.

Illinois W. P. Flint (May 19): Sod webworms are causing more than the normal amount of damage throughout central Illinois. Corn was planted unusually early, planting being practically finished at this time, and at least 30 to 50 per cent of the corn is already up. The species have not been definitely determined, but apparently C. teterrellus Zincken is one of those concerned. The webworm larvae are about half grown at this time in most fields.

J. H. Bigger (May 17): Webworms are very abundant. Reports from several counties indicate that from 15 to 60 per cent of the corn has been destroyed in sod land. Several thousand acres will be replanted.

Kentucky W. A. Price (May 21): A sod webworm (Crambus luteolellus Clem.) is the outstanding corn insect in this State at the present time. It is doing serious damage in Kenton, Bourbon, Lincoln, Woodford, and Jessamine Counties.

Mo H. E. Jaques (May 22): Sod webworms are moderately abundant in Floyd County.

Missouri L. Haseman (May 27): During the month there have been a few fields of corn that have been seriously damaged.

K. C. Sullivan (May 23): A sod webworm is reported on corn at Ashland.

SEED CORN BEETLE (Agonoderus pallipes Fab.)

Kansas R. L. Parker (May 22): The seed corn beetle is reported attacking corn sprouts at Fort Scott.

GRAPE COLASPIS (Colaspis brunnea Fab.)

Louisiana T. E. Holloway and J. W. Ingram (May 22): This small beetle was found to be making irregular holes in the central leaves of young corn near Raceland.

RED-HEADED FLEA BEETLE (Systema pallicornis Schiff.)

Mississippi R. W. Harned (May 21): A medium infestation of flea beetles, Systema frontalis, was reported on cotton and corn from Church Hill in Jefferson County on May 20.

SOUTHERN CORN LEAF BEETLE (Myochrous denticollis Lec.)

Indiana J. J. Davis (May 22): The southern corn leaf beetle was sent in with the report that it was destroying 90 per cent or more of the corn in a large field near Patriot, Switzerland County. The beetles appeared and destroyed the corn between May 1 and 6, as many as 11 beetles per hill being found. The field had been in alfalfa and blue grass and had not been mowed for two years. It was plowed in February and planted early. The beetles seem to feed mostly on the stem below ground.

Kentucky W. A. Price (May 21): The southern corn leaf beetle is doing serious damage to corn at Greenville and Alexandria.

CORN BILLBUGS (Sphenophorus spp.)

Missouri L. Haseman (May 28): A serious outbreak of corn billbugs was reported by Paul H. Johnson in Scott County, May 20-25, Sphenophorus destructor Chitt. being the most important.

ALFALFA AND CLOVER

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

Idaho Claude Wakeland (May 22): The alfalfa weevil is not alarmingly numerous at Parma; weather now cool and rainy. Weevil activity not likely to be sufficient to cause severe injury.

Nevada G. G. Schweis (May 20): Some damage is now appearing; control measures may be necessary at Reno and Fallon.

Ntah G. F. Knowlton (May 19): Alfalfa weevils are moderately abundant in Ogden and Homper.

CLOVER LEAF BEETLE (Hypera punctata Fab.)

ndiana J. J. Davis (May 22): The clover leaf beetle was conspicuously common throughout central Indiana and reports of damage to clover and alfalfa were received from Muncie, Windfall, and Kokomo, April 29 - May 8.

CLOVER HAY WORM (Hypsopygia costalis Fab.)

Nebraska M. H. Swenk (May 13): A Jefferson County correspondent reported on May 8 that his stacked alfalfa hay was severely infested with the clover hay worm.

ALFALFA CATERPILLAR (Eurymus eurytheme Boisd.)

Arizona C. D. Lebert (May 21): A great many adults were noticed in various fields in the vicinity of Phoenix. The insect appears to be general throughout the State.

PEA APHID (Illinoia pisi Kalt.)

Kentucky W. A. Price (May 21): The pea aphid is very bad on alfalfa in Fayette County. As many as 50 on a single stem with many winged forms were observed April 27.

ansas R. L. Parker (May 22): The pea aphid is reported from Larned on alfalfa.

Arizona C. D. Lebert (May 21): The pea aphid is general on alfalfa throughout the Salt River Valley.

Ntah G. F. Knowlton (May 3): Green pea aphids are fairly abundant on alfalfa.

regon L. P. Rockwood (May 7): Alfalfa which had been previously injured by this species at an earlier date was seen in Umatilla County, near Boardman, on May 3. A very few mature winged and wingless agamic females and some very early-stage larvae were swept on this date. Great numbers of coccinellid pupae, larvae, and fresh soft adults of the species Coccinella transversoguttata Fab. were swept. These predators appear to have eliminated a destructive outbreak in this case. Illinoia pisi are still not so numerous as usual on vetch and alfalfa in Washington County.

FRUIT INSECTS

APPLE

APHIDS (Aphidae)

- Massachusetts A. I. Bourne (May 20): Fruit aphids are absent or very scarce.
- Connecticut W. E. Britton (May 24): The fruit aphids are scarce.
- M. P. Zappe (May 22): Aphids on apples hatched in about the usual numbers in the southern part of the State, but are very scarce now.
- New York Weekly News Letter, N. Y. State Coll. Agr. (May): The fruit-aphid situation in New York has not very materially changed since last month. The apple aphid seems to be slightly more numerous and the rosy apple aphid appears to be decidedly on the increase in the Lake region.
- Minnesota A. G. Ruggles and assistants (May): Fruit aphids have been reported as scarce in Rock and Lyon Counties, moderately abundant in Brown County, and very abundant in Hennepin County.
- Utah G. F. Knowlton (May 19): Fruit aphids are very abundant at Farmington, curling leaves badly.
- APPLE APHID (Aphis pomi DeG.)
- New Hampshire F. R. Lowry (May 28): Green apple aphids are only moderately abundant around Durham.
- Vermont H. L. Bailey (May 26): Aphis mali, hatched from eggs about May 1, is moderately abundant in Topsham and Bradford.
- New York Weekly News Letter, N. Y. State Coll. Agr. (May 12): Green aphids are numerous in some orchards in Dutchess County; in Wyoming County the green aphids all seem to be relatively scarce, due presumably to abundance of parasites.
- Delaware L. A. Stearns (May 20): Apple aphids were moderately abundant May 9; calyx application just concluded.
- Illinois J. H. Bigger (May 17): Apple aphids are scarce in the western fruit area.
- Kentucky W. A. Price (May 21): The fruit aphid is very abundant in western and central Kentucky.
- Missouri R. M. Jones (May 22): Green apple aphids are moderately abundant in Marionville.

Mississippi J. P. Kislanko (May 20): Aphis pomi is very abundant at Wiggins.

ROSY APPLE APHID (Anuraphis roseus Bak.)

Maryland E. N. Cory and assistants (May 20): The rosy apple aphid is moderately abundant on the Eastern Shore and at College Park.

Virginia P. J. Chapman (May 21): Anuraphis roseus is moderately abundant.

Georgia C. H. Alden (May 21): Rosy apple aphids are moderately abundant in Cornelia.

Ohio T. H. Parks (May 21): Colonies of this plant louse are more abundant than usual on foliage of apple trees in Lawrence County in southern Ohio. Some of the young fruit has already been deformed. No infestation has been observed elsewhere in the State.

Kentucky W. A. Price (May 21): This aphid is very abundant over western and central Kentucky.

Missouri L. Haseman (May 27): Rosy apple aphids are moderately abundant at Columbia. They are more abundant than usual.

R. M. Jones (May 22): The rosy apple aphid is moderately abundant in Seymour.

Arkansas Dwight Isely (May 23): The rosy aphid is rather generally distributed on apples in northwestern Arkansas.

CODLING MOTH (Carpocapsa pomonella L.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May 26): The codling moths are now emerging in large numbers in Ulster County.

Delaware L. A. Stearns (May 20): Reports of the codling moth show 69 per cent overwintered larvae transformed by May 1, and 92 per cent transformed and 19 per cent emerged by May 11 at Camden; calyx application just concluded. First emergence in southern Delaware May 3; in northern Delaware May 9.

Maryland E. N. Cory and assistants (May 20): The codling moth is moderately abundant. It was emerging on May 6 and 7 on the western and eastern shore.

Ohio T. H. Parks (May 21): Emergence is being followed at four observation stations over the State. In Lawrence

County, southern Ohio, emergence commenced April 30, with temperature suitable for egg-laying during the following two weeks. Larvae were beginning to enter the apples May 15. Moth emergence is continuing. At Columbus emergence commenced May 6 and is continuing daily. At Oak Harbor on the west end of Lake Erie only a few moths have emerged and the evening temperatures have been too cool for any egg-laying. In southern and central Ohio the first cover spray was advised for two weeks after bloomfall. The spray has not yet been advised for northern Ohio.

Indiana

J. J. Davis (May 23): The codling moth is generally moderately abundant in southern Indiana.

Illinois

W. P. Flint (May 19): According to Mr. Chandler's observations, the codling moth began emerging at Carbondale on April 30. Emergence started apparently at about the same time in western Illinois, as adults were seen on May 4. Adults were also present at Urbana on May 4, there being less difference than usual in the time of the start of emergence in the southern and central parts of the State. Eggs are very scarce in orchards. The effect of the high winter mortality is quite apparent.

Kentucky

W. A. Price (May 21): The codling moth is moderately abundant over the State generally.

Iowa

H. E. Jaques (May 22): The codling moths are moderately abundant in southern Iowa.

Missouri

R. M. Jones (May 22): The codling moth is very abundant on apples in southwest Missouri.

K. C. Sullivan (May 23): The codling moth is generally moderately abundant. Cool weather has delayed emergence, particularly in the northern part of the State.

L. Haseman (May 28): The codling moth began emerging early this year but was checked by two weeks of cold weather and has in the last few days again gone forward with heavy emergence, reaching a peak apparently at Columbia, New Franklin, Laverly, and Independence May 20-23, and at St. Joseph May 26-28. In the Ozarks moths are a few days ahead of those at Columbia.

Minnesota

A. G. Ruggles and assistants (May): Reports indicate that this insect is moderately abundant in Fillmore, Brown, and Rock Counties, and scarce in Hennepin County.

Nebraska

M. H. Swenk (May 13): The first moths of the spring brood emerged in the insectary at Lincoln on May 3, which was 16 days earlier than the first emergence in 1929 and 20 days earlier than the first emergence in 1928. The first moths were collected in bait traps in the orchard on May 8, and others have been collected each warm night since. The mortality of wintering larvae was very heavy during the winter of 1929-30. Out of 611 larvae in cocooning racks in the out-of-doors insectary, 316, or nearly 52 per cent, died during the winter. About the same percentage of winter-killed larvae are found under natural conditions in the orchard.

Kansas

R. L. Parker (May 22): The codling moth is moderately abundant at Belle Plaine; first eggs April 14; first larvae May 9, at least three days old when observed, as reported by P. M. Gilmer.

Arkansas

A. J. Ackerman (May 5): Emergence of spring-brood moths at Bentonville began April 20. Approximately 1,300 moths, or about 16.5 per cent of the overwintered larvae, emerged between April 20 and May 4. In 1929 only about 6 per cent had emerged by May 4. Because of the high mortality of overwintering worms due to the January (1930) sub-zero temperatures, a large supply of larvae was collected in orchards during February, 1930, for supplementary material. The emergence of moths from these larvae, kept in pupa sticks in the insectary, began the third week in March, about one month earlier than the first emergence of moths from fall-collected material.

Idaho

Claude Wakeland (May 22): The codling-moth activity began much earlier than in 1929. The first cover spray was applied in 1930 earlier than the calyx spray was applied in 1929, and the second cover this year will probably be applied only a day or two later than calyx spray was applied in 1929.

Nevada

G. G. Schweis (May 20): The codling moth is moderately abundant at Reno.

Utah

G. F. Knowlton (May 19): The codling moth is moderately abundant in northern Utah; a few adults are emerging.

Washington

Calif. Spray-Chemical Co., Vol. 2, No. 2, "Ortho News" (May 10): The first flight of codling moths took place almost simultaneously in several northwest districts. The first flight indicated by our bait pots in the Broadway district was on the night of April 22. This coincides, practically, with moth flight reported in the lower Yakima Valley, at Selah and in the Wenatchee districts. Since this first flight fluctuating evening temperatures, mostly cool, have caused intermittent emergence of comparatively few moths.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

- Maine H. B. Peirson (May 10): The eastern tent caterpillar is very abundant in general. Many reports of damage to cherries have been received. (May 19): Eastern tent caterpillars are very abundant at Augusta.
- New Hampshire P. R. Lowry (May 28): Eastern tent caterpillars are not so common as usual in southeastern quarter of the State.
- Massachusetts A. I. Bourne (May 20): The eastern tent caterpillar is fairly abundant in Bristol and Plymouth Counties, but scarce elsewhere in the State.
- J. V. Schaffner, Jr. (May 23): During this month several observers reported the eastern tent caterpillars fully as abundant through the eastern section of Massachusetts as it was in 1929. In some localities of southern Norfolk, northern Bristol, and Essex Counties, wild cherries are badly defoliated.
- Connecticut W. E. Britton (May 22): The eastern tent caterpillar is much less abundant than usual, only one nest having been seen this year and that in Bethany. Mr. Zappe saw two in Goshen and none elsewhere.
- E. P. Felt (May 26): The tents are very scarce. There was practically none in the Stamford area last year and there seems to be no material increase this season.
- New York Weekly News Letter, N. Y. State Coll. Agr. (May 12): There is only a scattering of tent caterpillars in Columbia County.
- Delaware L. A. Stearns (May 9): The eastern tent caterpillars are apparently less common than usual.
- Maryland E. N. Cory and assistants (May 20): The eastern tent caterpillars are very abundant in Prince Georges and Anne Arundell Counties.
- Virginia P. J. Chapman (May 21): The eastern tent caterpillar is moderately abundant in Norfolk.
- Utah G. H. Knowlton (May 6): Tent caterpillars are present in many orchards in Utah County, requiring increased arsenic in the calyx spray on apples. (May 19): Tent caterpillars were damaging snowball in one garden at Farmington and have been causing slight damage to cherry trees at Perry and Willard.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

New Hampshire P. R. Lowry (May 28): Several acres of young trees are severely injured.

New York Weekly News Letter, N. Y. State Coll. Agr. (May): Larvae began showing up over most of the apple-growing sections the first week during the month and by the last of the month they were very numerous in the Lake region.

Utah G. F. Knowlton (May 3): The budmoth is damaging apple trees, occasionally to a serious extent, in Box Elder, Davis, Salt Lake, and Utah Counties. (May 13): Budmoths are beginning to pupate in Box Elder County. (May 19): Budmoths are largely leaving the leaves.

FALL CANCKER WORM (Alsophila pometaria Harr.)

Connecticut W. E. Britton (May 21): Particularly abundant along the Prospect Street ridge in New Haven.

E. P. Felt (May 26): Fall canker worms are somewhat generally abundant and injurious in southwestern Connecticut.

New York E. P. Felt (May 26): Fall canker worms are somewhat generally abundant and injurious on Long Island and in southeastern New York, the insects being particularly abundant on the mainland in a strip along the Sound.

Minnesota R. N. Chapman (May 26): The fall canker worm is very abundant along the Mississippi River near Fort Snelling.

CASE BEARERS(Coleophora spp.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May): Case bearers are present in small numbers in the Hudson River Valley and in the Lake region; some injury is being done in unsprayed orchards in Orange and Niagara Counties.

GREEN FRUIT WORM (Graptolitha antennata Walk.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May 5): Green fruit worms began to hatch during warm weather in Dutchess County. In Ulster County they appeared about May 7.

APPLE TWIG MINER (Mormara elotella Busck)

Rhode Island A. E. Stone (April 8): Specimens of apple twigs were sent to the National Museum for determination with damage that looks very much like the tunneling of some small bark borer, determined by Dr. C. Heinrich as Mormara sp. presumably elotella Busck).

APPLE TREE WEEVIL (Orchestes pallicornis Say)

Ohio T. H. Parks (May 21): This insect is on the increase in central Ohio. Infested apple leaves are being received from anxious fruit growers.

ROUND-HEADED APPLE TREE BORER (Saperda candida Fab.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May 12): The first "castings" of the round-headed apple tree borer were observed on May 5 in Orange County.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

Michigan R. H. Pettit (May 16): The fruit tree leaf roller is very plentiful in the fruit districts everywhere but especially near Ludington and Grand Rapids. Larvae are now about half an inch long.

New York Weekly News Letter, N. Y. State Coll. Agr. (May): By the middle of May leaf rollers were quite generally hatching throughout the fruit-growing section of New York State, and although no reports of very serious damage were received, the insect seems to be present in abnormally large numbers.

Utah G. I. Knowlton (May 3): The fruit tree leaf roller is generally present throughout the apple orchards of northern Utah, sometimes doing considerable damage. It is also present on cherry at Perry and on plum at Willard.

APPLE REDBUG (Lygidea mendax Reut.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May): The apple redbug is occurring in normal abundance in the Hudson River Valley, with reports of unusual abundance in Dutchess County the last of the month.

LEAFHOPPERS (Cicadellidae)

New York Weekly News Letter, N. Y. State Coll. Agr. (May): Apple leafhoppers were beginning to show up in Columbia County on May 12 and in Monroe County May 26. Black apple leafhoppers were very abundant in Wyoming County on May 12. Adults were found in considerable numbers in one section of Orange County on May 2.

Maryland E. N. Cory and assistants (May 20): Apple leafhoppers are moderately abundant.

Kentucky W. A. Price (May 21): Apple leafhoppers are moderately abundant generally over the State.

Mississippi

F. A. Smith (May 18): Apple leafhoppers are moderately abundant in Tunica, De Soto, Tate, Panola, and Quitman Counties.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Vermont

H. L. Bailey (May 26): The European red mite began hatching and going to buds about May 4 at Bradford and at Topsham; reported also from Castleton.

Massachusetts

A. I. Bourne (May 21): The European red mite on the whole is rather less abundant than last year as shown by the number of mites hatching from overwintering eggs. In some orchards the infestation is very light. There are few orchards having a very generally heavy infestation. Mites are in some cases very abundant in small blocks more or less localized in the orchards. Baldwins, as usual, seem to have the mites in greatest abundance.

New York

Weekly News Letter, N. Y. State Coll. Agr. (May): This insect seems to be well under control.

Michigan

R. H. Pettit (May 16): The European red mite is plentiful, especially in Washtenaw County.

Washington

Calif. Spray-Chemical Co., Vol. 2, No. 2, "Ortho News" (May 10): In our last News Letter we reported that eggs of the European red mite or the brown mite were unusually abundant in many orchards this spring. The present conditions indicate no material injury up to this time.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Indiana

J. J. Davis (May 23): The oyster-shell scale is moderately abundant in northern Indiana.

Kentucky

W. A. Price (May 21): The oyster-shell scale is moderately abundant.

Minnesota

A. G. Ruggles (May 26): This scale is very abundant; eggs started hatching last week at St. Paul and Minneapolis.

South Dakota

A. L. Ford and H. C. Severin (May 20): The oyster-shell scale is moderately abundant, spotted over the entire State. Mostly on apple and elm.

Nebraska

M. A. Swenk (May 19): The oyster-shell scale is very abundant in northeastern Nebraska. During the period from April 15 to May 15 an unusual number of complaints of infestations of apple trees were received.

PEAR

PEAR PSYLLA (Psylla pyricola Forst.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May):
The situation has not materially changed since our last report.

Illinois S. C. Chandler (May 16): As yet very few psyllas have been found in the pear district around Alma, where a heavy loss was sustained from this insect in 1929.

PEAR LEAF BLISTER MITE (Eriophyes pyri Pagst.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May):
Injury to pears is becoming noticeable in Dutchess, Orange, and Columbia Counties.

Indiana J. J. Davis (May 22): The peach leaf blister mite was destructive to pear at Ladoga April 28.

PEAR MIDGE (Contarinia pyrivora Riley)

New York Weekly News Letter, N. Y. State Coll. Agr. (May): The pear midge appeared in large numbers in Dutchess County the last week in April, and reports up to May 19 indicate that there will be serious losses where no attempt was made to control the insect. Emergence during the last week in April and the first week in May was reported from Genesee, Ulster, and Columbia Counties.

PEAR THRIPS (Taeniothrips inconsequens Uzel)

New York Weekly News Letter, N. Y. State Coll. Agr. (May 19):
Nymphs have been observed in Dutchess County.

PEACH

LESSER PEACH BORER (Sesia pictipes G. & R.)

Georgia O. I. Snapp (May 20): This insect is very abundant in neglected orchards and in those where trees have been injured by farm implements or low temperatures.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Connecticut Philip Garman (May 23): Twig injury is just appearing. Trichogramma egg parasites are being observed at New Haven.

W. E. Britton (May 24): The oriental fruit moth is moderately abundant.

ew York

Weekly News Letter, N. Y. State Coll. Agr. (May): Injury had been observed May 19 in the northern part of Chautauqua County, where it seems to be worse than last year. This insect was emerging in large numbers in Ulster County on May 26.

elaware

L. A. Stearns (May 20): Ninety-five per cent of the overwintered larvae had transformed May 1 and 100 per cent had transformed and 62 per cent had emerged May 11 at Camden; shuck application just concluded. First emergence in southern Delaware April 11; in northern Delaware May 2. First eggs deposited April 14; hatched May 2; first larvae collected in orchard May 8 at Camden.

aryland

E. M. Cory and assistants (May 20): The oriental fruit moth is moderately abundant. First emergence occurred April 16 and peak was reached May 1.

irginia

P. J. Chapman (May 21): The oriental fruit moth is moderately abundant.

Georgia

O. I. Snapp (May 20): While the first larvae of the season were not found until May 19, suspicious twig injury has been observed since April 29. The larvae ranged in size from about six days old to practically full grown, and are thought to be still individuals of the first generation. The infestation this year is the lightest since the insect became established in Fort Valley. There have been very few infested twigs or evidences of attack. Furthermore, the insect appeared later this year than since it became established here. Last year the first twig injury was observed on April 4. The dates of the first twig injury of the other years are: April 25, 1928; April 1, 1927; April 20, 1926; April 10, 1925. As heretofore, the oriental peach moth continues to be a peach pest of only secondary importance in this section of the Georgia peach belt.

C. H. Alden (May 21): The oriental fruit moth is scarce in Cornelia; very light spring.

lorida

J. R. Watson (May 20): The oriental fruit moth is scarce.

E. W. Berger and G. B. Merrill (May 20): The oriental fruit moth is moderately abundant in west Florida. Injured peach twigs only received.

hio

T. H. Perks (May 21): The oriental fruit moth is moderately abundant. Larvae feeding in twigs during May.

E. W. Mendenhall (May 26): Some evidence is seen of the oriental peach moth in Columbus. It is causing tips of the limbs to die back, to what extent of damage remains to be

seen. It has been found in every county in the State.

Indiana J. J. Davis (May 22): The oriental fruit worm is showing up in serious numbers comparable with those of 1929.
(May 23): Very abundant in general in southern Indiana.

Illinois S. C. Chandler (May 16): Peach trees 2 to 4 years old in Pulaski County showed 40 to 50 per cent of the twigs injured on May 10, while about a fourth as much injury was found in the two counties just north. Aside from Pulaski County, injury is still light everywhere in southern Illinois.

Kentucky W. A. Price (May 21): The oriental fruit moth is very abundant everywhere peaches are grown.

Michigan R. H. Pettit (May 16): The oriental fruit moth has appeared in the adult stage about two weeks ahead of normal in eastern Michigan.

Mississippi R. W. Harned and assistants (May): The oriental fruit moth is being reported in moderate abundance from several counties in the north-central part of the State.

PEACH TWIG BORER (Anarsia lineatella Zell.)

Utah G. F. Knowlton (May 3): Peach twig borers are ordinarily destructive this year, and more abundant than usual in the southern part of Davis County. (May 19): The peach twig borer is moderately abundant, and is causing some damage at Perry, Willard, Bountiful, and Farmington.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts A. I. Bourne (May 20): Too early to determine abundance of the plum curculio yet. Just noting "stings" on fruit May 20.

Connecticut W. L. Britton (May 24): The plum curculio is moderately abundant. Adults have emerged in usual numbers.

New York Weekly News Letter, N. Y. State Coll. Agr. (May 26): Curculio injury is common in most apple orchards, especially bordering stone fences and hedges in Orange County. Great damage to apples during the past week was caused by curculios in Dutchess County, where they have been cutting apples all week. In Columbia County curculio work is showing up some on cherries, apples, and pears. Some growers put on extra sprays on apples for curculio control.

Delaware L. A. Stearns (May 20): First curculios emerged from hibernation at Camden, Milton, Millsboro, and Bridgeville in central and southern Delaware April 15 and were delayed at

Newark and Wilmington in northern Delaware until May 5, the peak of emergence in southern Delaware. Shuck application concluded May 10.

Maryland

E. N. Cory and assistants (May 30): The plum curculio is moderately abundant; April 28 the first adults were observed in western Maryland; April 16 in eastern Maryland.

Virginia

P. J. Chapman (May 21): The plum curculio is moderately abundant in Norfolk.

South Carolina

F. Sherman (May 19): The plum curculio is moderately abundant. Several recent complaints.

Georgia

W. H. Clarke (March 18-April 9): Report on jarring experiments: During above mentioned period a grand total of over 75,000 overwintering adults were collected around the edge of one orchard. The lowest catch was one from approximately 30 trees. The highest catch for any one day was 11,571. The highest number collected from any one tree was 73, but this tree was located in the corner of the orchard close to a rock fill. The first emergence of the season was recorded on February 25 when five adults were collected. The next earliest emergence was March 17.

O. I. Snapp (April 28): The first curculio larvae of the season left peach drops today. This is about two weeks later than usual. Under normal weather conditions 90 per cent of the larvae in drops leave during April. As the insect is getting a late start this year, I am anticipating only a very light second generation before the close of peach season. (May 20): The first pupation took place on May 15. The season has been unusually dry, and if there is less than the average amount of rainfall between now and the Elberta harvest, that variety may also escape a heavy second-brood attack. As a result of spraying, the heavy curculio infestation at the close of the 1929 season has been reduced to what may be termed a normal infestation at the present time. Weather conditions have also contributed to the reduction of the curculio infestation in the South. (May 23): The first beetle of the first 1930 generation transformed in the soil cell today; however, we are not expecting them to begin their escape from the soil for another two or three weeks. Transformation is taking place later than usual, except those years when there is only one generation.

C. H. Alden (May 21): The plum curculios are very abundant in Cornelia; drops wormy.

H. S. Adair (April 29): The plum curculio is reported much less abundant in peach orchards around Albany than on this date last year.

- Florida J. R. Watson (May 20): The plum curculio is moderately abundant over all the State.
- E. W. Berger and G. B. Merrill (May 20): The plum curculio is very abundant on wild plums and peaches at Gainesville.
- Ohio T. H. Parks (May 21): The plum curculio is very abundant on apples. Considerable damage to young apples has occurred in the southern half of the State. The injury is more than usual. Cherries, peaches, and plums are a failure due to late freezing weather.
- Indiana J. J. Davis (May 23): The plum curculio is moderately abundant in southern Indiana.
- Illinois S. C. Chandler (May 16): The plum curculio, probably because of the absolute failure of peaches, has become quite serious on apples in southern Illinois this year. In sections where peach orchards adjoin apple orchards as high as 53 per cent of the apples in well sprayed orchards show the typical curculio injuries. Interplanted orchards are generally worse than those planted separately.
- Kentucky W. A. Price (May 21): The plum curculio is moderately abundant.
- Minnesota A. G. Ruggles and assistants (May): The plum curculio is being reported in moderate abundance in Brown and Fillmore Counties and as very abundant in Hennepin and Lyon Counties.
- Iowa H. E. Jaques (May 22): The plum curculio is very abundant in Henry County.
- Missouri L. Haseman (May 27): The plum curculio has done more damage than usual on plum, cherry, and apple at Columbia. Some worms are one-half grown.
- K. C. Sullivan (May 23): The plum curculio is moderately abundant in general, and is causing considerable injury in central Missouri.
- R. M. Jones (May 22): The plum curculio is moderately abundant on apples at Mountain Grove, Seymour, and Marionville.
- Kansas R. L. Parker (May 22): The plum curculio is scarce in Manhattan. None seen on cherry this year.
- Alabama J. M. Robinson (May 24): The plum curculio is moderately abundant at Auburn.
- Mississippi R. W. Harned and assistants (May): The plum curculio is being reported as moderately abundant to very abundant from all parts of the State.

Louisiana

W. E. Hinds (May 30): The plum curculio is scarce in general on peaches and plums.

Texas

F. L. Thomas (May 22): The plum curculio is moderately abundant on plums.

A BEETLE (Diplotaxis frondicola Say)

Georgia

W. H. Clarke (May 1): Leaves of one-year-old trees, at Cooksville, were being eaten. Injury was heavy in part of the orchard. Hand picking and jarring at night were used by the grower in an attempt to reduce the number so as to decrease the injury. The beetles congregated at the base of the tree and just under the surface of the soil during the day, feeding at night. Forty beetles were taken from the soil under one tree.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Indiana

J. J. Davis (May 22): Shot-hole borers were first observed in conspicuous numbers at Mitchell April 24, and since that date the seriousness of infestations in peach in southern Indiana has been reported from various sources. In some cases the infestation has resulted from a weakened condition as a result of San Jose scale infestation, but in general it is due to a weakened condition of the tree resulting from the freeze in January.

GREEN PEACH APHID (Myzus persicae Sulz.)

Nebraska

M. H. Swenk (May 13): The green peach aphid was first reported May 1 on peach foliage in southeastern Nebraska. (May 19): These fruit aphids are very abundant in eastern Nebraska.

Nevada

G. G. Schweis (May 20): Aphids are reported as damaging peaches at Reno.

Utah

G. F. Knowlton (May 13): The green aphid is curling leaves of peaches and becoming abundant in a few orchards at Deweyville and Brigham City.

CHERRY

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (May 12): The black cherry aphid was reported as scarce in Niagara County, presumably owing to the abundance of its parasites.

- Ohio E. W. Mendenhall (May 15): Cherry aphids are here again and some people are quite concerned.
- Missouri K. C. Sullivan (May 23): Black aphids are moderately abundant on cherry in Boone County.
- Utah G. F. Knowlton (May 19): The black cherry aphid is becoming very abundant at Perry.
- Washington Wm. W. Baker (May 24): The black cherry aphids are moderately abundant.

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

- Washington C. W. Getzendaner (May 24): The brown apricot scale is very common this summer, and has caused considerable damage in some cases to cherry, elm, and apple. Egg-laying is nearly completed, but none hatched as yet. No evidence of parasitism.

PLUM

RUSTY PLUM APHID (Hysteroneura setariae Thos.)

- Georgia Wm. F. Turner (May 13): I would like to support the reports, on the occurrence of the rusty plum aphid, from Georgia by stating that it appears to be particularly abundant here at Fort Valley this year. Also, I found it today on Amygdalus davidiana.
- Mississippi R. W. Harned and assistants (May): The rusty brown plum aphid is very abundant on plums in the southern part of the State.
- Nebraska M. H. Swenk (May 13): The rusty brown aphid was first reported on plum foliage on May 9 from southeastern Nebraska. (May 19): These aphids are very abundant in eastern Nebraska.
- Utah G. F. Knowlton (May 3): Aphids are rather abundant on a few plum trees at Willard.

RASPBERRY

RASPBERRY FRUIT WORM (Byturus unicolor Say)

- Michigan R. H. Pettit (May 16): In our raspberry district in southwestern Michigan Byturus unicolor is working in the adult condition on the new growth of raspberries. This part of the State seems to be quite heavily infested.
- Minnesota A. G. Ruggles (May 26): Adults were out in great numbers at St. Paul on May 23.

Washington

R. L. Webster (April 20): Damage by beetles to opening flower buds of red raspberry is reported at Clarkston.

SNOWY TREE CRICKET (Oecanthus niveus DeG.)

Kansas

R. L. Parker (May 24): Snowy tree crickets are injuring raspberry in Kansas City.

BLACKBERRY

RASPBERRY ROOT BORER (Pemphecia marginata Harr.)

Ohio

T. H. Parks (May 21): Specimens of the blackberry crown borer and its damage were received from Monroe County May 13.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

Virginia

W. A. Thomas (May 21): Hundreds of these insects were observed today on cultivated blackberries at Salem, where they seem to be feeding on the open leaves and fruit. Adjacent raspberries were apparently not attacked by this insect.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

New York

Weekly News Letter, N. Y. State Coll. Agr. (May 26): Grape leafhoppers are numerous on grapes in Dutchess County.

Delaware

L. A. Stearns (May 9): The grape leafhopper is abundant throughout the State.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Ohio

E. J. Mendenhall (May 10): An outbreak of the grape leaf folder was found in Columbus on grape leaves.

GRAPE PLUME MOTH (Oxyptilus periscallidactylus Fitch)

Ohio

T. H. Parks (May 21): Larvae of the grape plume moth were received from southeastern Ohio, Morgan County.

GRAPE FLEA BEETLE (Ealtica chalybea Ill.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (May 26): The steely beetle is not as bad as usual in Yates County.

Delaware

L. A. Stearns (May 20): The grape flea beetle emerged from hibernation at Yorklyn and Hockessin April 30 and was very abundant May 5 and 15.

Ohio T. H. Parks (May 21): Specimens and damaged grape buds were sent in early in May from Belmont County.

GRAPE PHYLLOXERA (Phylloxera vitifoliae Fitch)

California Monthly News Letter of Los Angeles Co. Agri. Comm., Vol. 14, No. 5 (May 15): The phylloxera survey being conducted by the Los Angeles County Agricultural Commission, following the recent eradication of that pest in one vineyard at San Gabriel, has recorded a second infestation in a vineyard immediately adjacent to the initial infestation.

CURRANT AND GOOSEBERRY

IMPORTED CURRANT WORM, (Pteronidea ribesii Scop.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May 12): Eggs of the imported currant worm are common around the Newburgh section of Orange County.

Ohio E. W. Mendenhall (May 15): The imported currant worms are here again. They are very troublesome, attacking currant and gooseberries.

Nebraska M. H. Swenk (May 13): Beginning about April 25 and continuing to date, there were many complaints of the stripping of currant and gooseberry bushes in southeastern Nebraska.

CURRANT BORER (Synanthedon tipuliformis Linn.)

Utah G. F. Knowlton (May 6): The currant borer is doing some damage to currant bushes in Cache and Utah Counties.

CURRANT APHID (Myzus ribis L.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May): The currant aphid was very much in evidence in Ulster County the first week in May, yet not in such large numbers as to be alarming. This insect was present in most of the currant plantings in Orange County by May 12 and a few plantings in the Newburgh section were showing considerable injury by May 19.

South Dakota A. L. Ford and H. C. Severin (May 20): Infestation by the currant aphid is serious in Brookings.

Utah G. F. Knowlton (April 29): The currant aphid is damaging currants at Woods Cross. (May 3): The currant aphid is damaging currants at American Fork and Provo.

Washington Wm. W. Baker (May 24): Currant aphids are moderately abundant.

CURRENT FRUIT FLY (Epochra canadensis Loew)

Oregon

L. P. Rockwell and Max M. Reeser (May 7): Gooseberry maggot adults were emerging at Forest Grove on April 18.

PERSIMMON

PERSIMMON BORER (Sannina uroceriformis Walk.)

Mississippi

H. Dietrich (May 20): The persimmon root borer is extremely abundant in a nursery at Lucedale.

A LEAF BEETLE (Antipus laticlavata Forst)

Alabama

J. A. Hyslop (May 22): These beetles are so numerous on Japanese persimmon at Foley that in some cases small trees are defoliated.

PECAN

PECAN SHUCKWORM (Laspeyresia caryana Fitch)

Georgia

H. S. Adair (April 29): Although the season is two or three weeks later than last year, shuckworm moths have been emerging normally as compared with last year's records. The first moth to emerge from material kept in outside cages emerged on March 12 as compared with March 19 last year. The first eggs were found on pecan leaves April 17 as compared with March 30 last year. The only larvae observed so far are found feeding in Phylloxera galls on hickory.

Mississippi

H. Dietrich (May 20): Grown larvae in hickory nut observed at Vernal on May 13.

J. P. Kisilanko (May 17): The pecan shuckworms are quite abundant in the galls of hickory Phylloxera; some now are in the pupal stage in Stone County.

PECAN BUDMOTH (Proteopteryx bolliana Sling)

Georgia

H. S. Adair (May 26): Larvae are rather abundant on young pecan trees in the locality of Albany and have caused considerable defoliation.

PECAN CIGAR CASE BEARER (Coleophora caryaefoliella Clem.)

Mississippi

H. Gladney (May 15): The pecan cigar case bearer is moderately abundant on pecans at Ocean Springs.

J. P. Kislanko (May 17): The pecan cigar case bearer is more abundant this year than it was last year in Stone County.

PECAN CASE BEARER (Acrobasis juglandis LeB.)

Mississippi

H. Gladney (May 15): The pecan case bearer is moderately abundant on pecans at Ocean Springs.

R. P. Colmer (May 19): The pecan case bearer is very abundant in the vicinity of Pascagoula.

J. P. Kislanko (May 17): The pecan case bearer is scarce on the trees that were defoliated by the black pecan aphid early last year. On the trees that were not defoliated the case bearers are moderately abundant. Acrobasis juglandis LeB. predominating in Stone County.

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Georgia

H. S. Adair (May 26): The pecan nut case bearer has caused considerable damage to pecans in the Albany locality. Field counts show 30 per cent of the nut clusters infested in many orchards. The maximum oviposition period occurred between May 10 and 20.

Mississippi

J. P. Kislanko (April 25): Injury by the pecan nut case bearer to nursery stock was moderate. Several young twigs were split open and a dead larva was found in practically every case in Stone County.

H. Gladney (May 15): The pecan nut case bearer is moderately abundant on pecans at Ocean Springs.

Louisiana

M. D. Linds (May 30): The pecan nut case bearer is doing much damage to young pecan nuts in many localities.

PECAN LEAF CASE BEARER (Acrobasis cunulæ Dyar & Heinrich)

Mississippi

J. P. Kislanko (May 17): The pecan leaf case bearer is scarce on the trees that were defoliated early by the black pecan aphid last year. On the trees that were defoliated the case bearers are moderately abundant in Stone County.

FALL WEBWORM (Hyalophantia cunea Dru.)

Georgia

H. S. Adair (May 26): The fall webworm, which has been abundant at Albany during the past two seasons, is beginning to appear in pecan orchards at this time.

J. B. Gill (May 29): Nests are becoming quite abundant in some pecan orchards of southern Georgia.

Mississippi

R. W. Harned (May 21): On May 20 a correspondent at Meridian sent to this office several moths of the fall webworm that were found depositing eggs on pecan leaves. On May 19 J. M. Lungston observed a moth of this species depositing eggs on pecan leaves at A. & M. College.

J. P. Kislanko (May 9): The first note of the fall webworm was made on this date when several females were observed ovipositing on the leaflets of pecan in Stone County.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Georgia

J. B. Gill (May 29): Up to date only a few colonies of the walnut caterpillar have been observed in pecan orchards.

AN APHID (Myzocalis fumipennellus Fitch)

Georgia

H. S. Adair (May 26): Although the black pecan aphid was present in considerable numbers in some pecan orchards near Albany earlier in the season, it is rather scarce at this time.

Alabama

J. M. Robinson (May 24): Through the dry season the black pecan aphid has shown up in large numbers on pecan foliage at Auburn.

Mississippi

J. P. Kislanko (May 19): The black pecan aphid injury to the foliage of Schley variety of pecan is very noticeable. The aphid is more abundant on hickory in the woods than it was the previous year at this time in Stone County.

APHIDS (Monellia spp.)

Georgia

O. I. Snapp (May 15): The little hickory aphid Monellia caryella is unusually abundant at Fort Valley this year, attacking pecan foliage. Natural enemies are also abundant and may check the infestation, although considerable injury to the foliage has already been caused.

H. S. Adair (May 26): Two species of aphids (Monellia sp. and Monellia costalis Fitch) are reported as occurring in pecan orchards at Thomasville and Cairo in greater numbers than usual at this time of the year. Except in an occasional orchard they are not so numerous in this locality. (Albany).

Alabama

J. M. Robinson (May 24): Through the dry season Monellia costalis has shown up in large numbers on pecan foliage at Spring Hill. This note applies to M. nigropunctata Gran. also.

GIANT APHID (Longistigma caryae Harr.)

Mississippi

D. W. Grimes (May 19): The giant aphid is moderately abundant on pecan in Holmes, Attala, and Leake Counties.

PECAN CATOCALA (Catocala viduata Guen.)

North Carolina

Z. P. Metcalf (May 23): The pecan Catocala has been reported as seriously damaging buds of pecan trees in New Hanover County.

HICKORY SHOOT CURCULIO (Conotrachelus aratus Germ.)

Mississippi

R. W. Harned (May 21): The hickory shoot curculio has attracted a great deal of attention in several counties in the southern half of the State during the past month. Serious injury to pecan trees was reported from Jackson, Simpson, Lincoln, Covington, Rankin, Jefferson Davis, and Jefferson Counties.

PHYLLOXERA (Phylloxera spp.)

Mississippi

R. W. Harned (May 21): Phylloxera galls on pecan trees have attracted much attention in certain sections of the State during the past two or three weeks. Specimens identified by A. L. Hamner as those caused by Phylloxera devastatrix Perg. were received from Jefferson, Issaquena, Hinds, Yazoo, Sharkey, Monroe, Washington, Tallahatchie, and Sunflower Counties. Galls caused by P. notabilis Perg. were received from Pass Christian.

C. Hines (May 17): Phylloxera caryaecaulis Fitch is moderately abundant on pecans at Yazoo City and Rolling Fork.

W. L. Gray (May 17): The hickory phylloxera P. caryaecaulis is moderately abundant in Adams County.

CITRUS

CITRUS APHID (Aphis spiraecola Patch)

Florida

J. R. Watson (May 20): During the last week in April the green citrus aphid (Aphis spiraecola) was brought under very satisfactory control by the fungus Empusa fresenii. Since then the aphid has not reappeared in large numbers in the round-orange belt, but has done considerable damage to tangerines and satsumas in central Florida, the dry, hot weather being unfavorable for the development of the fungus.

CLOUDY-WINGED WHITEFLY (Dialeurodes citrifolii Morg.)

Florida

J. R. Watson (May 20): The spring brood of whitefly has been somewhat more numerous than during the last three years. The entomogenous fungi, both Aschersonia sp. and Aegerita sp., are scarce, owing to the hot, dry weather.

CITROPHILUS MEALYBUG (Pseudococcus gahani Green)

California

Monthly News Letter of Los Angeles Co. Agri. Comm., Vol. 12, No. 4 (April 15): Reports of special inspectors engaged in the annual citrophilus mealybug orchard survey bear out early statements to the effect that the situation regarding the mealybug is the most satisfactory, from the standpoint of control, that it has been since this insect became a major pest of citrus in Los Angeles County. Although only 46 per cent of the 18,000 acres to be inspected have been so far covered, the results seem indicative of the general trend of conditions. On 18 per cent of the 8,130 acres so far inspected, representing 1,448 acres of citrus recorded as infested last year, no mealybug has been found this season. Seventy-seven per cent or 6,280 acres have graded trace to light, while only 4.3 per cent or 350 acres have graded medium, and 0.7 per cent or 52 acres have graded heavy.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Texas

S. W. Clark (May 14): This insect is generally abundant throughout the lower Rio Grande Valley. It is reproducing very rapidly and appearing on young fruit in large numbers. Appearances point to a bad season in regard to this scale.

A CUTTING ANT (Atta texana Buckl.)

Texas

S. W. Clark (May 14): These cutting ants are doing severe damage to citrus near Mission and Edcouch and they are also feeding on ornamental dates.

ORANGE DOG (Papilio thoas L.)

Mississippi

H. Dietrich (May 20): The first specimen of the orange dog was seen on satsuma at Lucedale on May 14.

CASSAVA

WHITE MUSSEL SCALE (Lepidosaphes alba Ckll.)

Haiti

H. L. Dozier (April 19): Cassava plants at Port-au-Prince are heavily infested. (Determined by H. Morrison.) Two species of primary parasites, Aphytis spp., and two secondary ones, Thysanus (Signiphora) fax (Gir.) and Thysanus maculatus (Gir.), have been reared from this scale; the latter species is very abundant.

TRUCK - CROP INSECTS

GREEN PEACH APHID (Myzus persicae Sulz.)

Virginia

G. E. Gould (May 22): Individuals of this species migrated to many truck crops and weeds during May at Norfolk, but have caused no appreciable damage. Many winged females were found on spring cabbage, tomatoes, and eggplant.

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi

R. W. Harned and assistants (May 21): Serious injury to tomato plants by the vegetable weevil was reported recently from Myles, Ebenezer, and Vicksburg. This insect is doing considerable damage to turnips, carrots, and tomatoes in the infested areas.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

North Carolina

C. H. Brannon (May 26): The spotted cucumber beetle is unusually severe; damage is reported from all over the State on early truck crops.

FLEA BEETLES (Halticinae)

Indiana

J. J. Davis (May 22): Flea beetles were reported as damaging early tomatoes and seedlings at Lafayette May 2 and Greencastle May 17.

Maine

H. B. Peirson (May 14): The horse-radish flea beetle (Phyllotreta armoraciae Koch) is reported as attacking horse radish at Augusta.

BLISTER BEETLES (Meloidae)

Mississippi

J. P. Kislanko (May 19): Blister beetles are doing some damage to beans and cowpeas in Stone County.

Arizona

C. D. Lebert (May 21): A large blister beetle (Tegrodera erosa Lec.) is affecting truck crops west of Phoenix on land next to the desert. This beetle is often seen in large numbers on the desert.

Mississippi

R. W. Harned (May 21): Blister beetles (Epicauta lemniscata Fab.) were received on May 22 from Lucedale, where they were reported as causing injury to beet and cabbage plants.

Louisiana

W. A. Douglas (May 17): A large number of blister beetles (Epicauta lemniscata Fab.) were found in a garden near Crowley this morning, though none were present up to 6 o'clock yesterday afternoon. The beetles were feeding on peppers, tomatoes, snap beans, mustard, carrots, eggplants, and cabbage.

- Louisiana W. E. Hinds (May 30): Striped blister beetles (Epicauta vittata Fab.) have damaged potatoes, soy beans, and corn in spots.
- Texas S. W. Clark (May 5): Reports of isolated infestations of Epicauta vittata Fab. have been received from Weslaco; but the insect is not generally so abundant at the present time.
- SEED CORN MAGGOT (Hylemyia cilicrura Rond.)
- Ohio T. H. Parks (May 21): The seed corn maggot has seriously injured potato seed pieces in the ground. We have received them from two widely separated counties, and inspected one county which had about 60 per cent of the seed pieces damaged. Adults were reared and identified by Prof. J. S. Hine. No reports of damage to seed corn have been received.
- Indiana J. J. Davis (May 22): Corn seed maggot reported damaging corn in Shelby and Union Counties, May 10 and 13, respectively.
- Michigan R. H. Pettit (May 27): An unusual outbreak of the seed corn maggot has just appeared at Romeo in Macomb County. One large field was estimated to have lost 50 per cent or more of the stand of corn. This insect is common with us on beans but seldom plentiful in corn.
- Minnesota A. G. Ruggles (May 26): This insect is moderately abundant in peas at Fairmont.
- Iowa H. E. Jaques (May 22): The seed corn maggot is moderately abundant in Decatur County.
- Missouri L. Haseman (May 27): During the first part of May a number of complaints were received regarding seed corn maggots injuring germinating corn and melon seeds.
- Idaho G. F. Knowlton (May 3): The seed corn maggot has been destroying watermelon seed in a few fields at Centerville.
- FALSE CHINCH BUG (Nysius ericae Schill.)
- Arizona C. D. Lebert (May 21): The false chinch bug has been found on young grapes in spots throughout the Salt River Valley.
- Idaho G. F. Knowlton (May 3): False chinch bugs are rather numerous in occasional fields.
- A MOLE CRICKET (Scapteriscus spp.)
- South Carolina F. Sherman (May 19): Quite a number of complaints of mole crickets have been received from eastern South Carolina.

- Alabama J. M. Robinson (May 24): The mole crickets have shown up in large numbers at Talladega during the dry weather.
- Mississippi R. W. Harned (May 21): Mole crickets identified by J. M. Langston as Scapteriscus acletus R. & H. were received from Waynesboro on May 9. The correspondent reported that they had "ruined a seed bed of tomatoes and peppers."

GARDEN SLUG (Agriolimax agrestis L.)

- Nebraska M. H. Swenk (May 13): On April 29 a man from Red Willow County reported that the slug was already doing damage in his fruit patch where heavy mulching had been applied.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

- New York Weekly News Letter, N. Y. State Coll. Agr. (May): The beetle is occurring in unusual numbers in Suffolk County.
- Delaware L. A. Stearns (May 20): Adults were first observed at Hockessin May 9.
- Virginia P. J. Chapman (May 23): A prolonged dry period in the Norfolk-Portsmouth district has apparently favored the potato beetle. It is more injurious than usual. A few larvae have nearly completed their growth in some fields. The pest has been seen on eggplant and tomatoes, but of course is most injurious to potatoes.
- North Carolina W. A. Thomas (May 8): The newly deposited eggs have hatched and the larvae are defoliating many acres of potatoes at Chadbourn where no control measures have been employed.
- Georgia C. H. Alden (May 21): The Colorado potato beetle is scarce at Cornelia; few old beetles out.
- Florida W. E. Stone (May 22): About 18 adult specimens were collected at Elkton, St. Johns County, May 21. Dr. Newell remarked that the insect occasionally appeared along the northern counties. It is believed, however, that there is no record of this insect as far south as the Hastings district of St. Johns County.
- Kentucky W. A. Price (May 21): The beetle is moderately abundant. Larvae seen on vines May 5.
- Iowa H. E. Jaques (May 23): The beetle is scarce in Henry County.
- C. N. Ainslie (May 22): The beetles are already very numerous on early-planted potatoes at Sioux City. Plants are being attacked as soon as they appear above ground.

Minnesota K. A. Kirkpatrick (May 9): The beetle is very abundant in Hennepin County.

Alabama J. M. Robinson (May 24): The beetle is very abundant at Auburn.

Mississippi K. L. Cockerham (April 25): This insect was found damaging Irish potatoes in a garden at Biloxi April 25. Larvae were quite plentiful.

R. W. Harned and assistants (May): This insect appears to be from moderately abundant to very abundant, as indicated by reports received from practically every section of the State.

Idaho Claude Wakeland (May 22): A few inquiries are being received concerning the control of the Colorado potato beetle, which is generally distributed over the northern part of the State but does not yet occur in the commercial potato sections of southern Idaho. The first adults were observed on potatoes in the Moscow district on May 6.

POTATO APHID (Illinoia solanifolii Ashn.)

Virginia G. E. Gould (May 22): The potato aphid is the commonest species found on truck crops at present. Owing to an unusually hot, dry period during May, winged individuals have migrated to many cultivated plants and to weeds. Serious infestations were noticed on seed spinach, eggplant, tomato, and potato, with an occasional record of damage to potatoes.

Florida J. R. Watson (May 20): The potato aphid is still doing considerable damage to tomatoes in the south-central part of the State.

POTATO LEAFHOPPER (Empoasca fabae Farr.)

Stucky W. A. Price (May 21): The potato leafhopper is moderately abundant.

Minnesota K. A. Kirkpatrick (May 9): The potato leafhopper is very abundant in Hennepin County.

TOMATO SUCKFLY (Dicyphus minimus Uhler)

Neas S. W. Clark (May 12): This insect is generally abundant near Weslaco and severe damage is occurring in occasional cases.

A CURCULIO (Cobryastes ovipennis Sharp)

Neas R. K. Fletcher (April 11): This curculio is reported to be very abundant at Garrison, seriously injuring stalks of tomato.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

- New York Weekly News Letter, N. Y. State Coll. Agr. (May): Large numbers of eggs were being laid in cabbage seed beds in Onondaga County by the last week in May.
- Indiana J. J. Davis (May 22): The cabbage worm is damaging cabbage at Sheridan and Peru.
- Minnesota K. A. Kirkpatrick (May 9): The imported cabbage worm is very abundant in Hennepin County.
- Mississippi R. W. Harned and assistants (May): This insect is doing some damage in Jones and Jasper Counties, and is quite destructive at Lucedale.

DIAMOND-BACK MOTH (Plutella maculipennis Curtis)

- Utah G. F. Knowlton (May 2): An adult was observed ovipositing on young cabbage sets at Farmington.

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

- Connecticut R. B. Friend (May 24): There is an average abundance of cabbage maggots at New Haven.
- Montana W. B. Mabey (May 20): Cabbage maggots are doing more damage than usual in Ravalli County.

HARLEQUIN BUG (Murgantia histrionica Hahn)

- Mississippi R. W. Harned and assistants (May): Reports of moderate abundance have been received from scattered localities in the State and of great abundance from Rosedale.
- Alabama J. M. Robinson (May 24): The harlequin bug is very abundant at Auburn.
- Texas F. L. Thomas (May 22): The harlequin bug is less abundant than usual at College Station, no complaints having been received this season.

CABBAGE APHID (Brevicoryne brassicae L.)

- Virginia G. E. Gould (May 22): The cabbage aphid is unusually abundant on seed kale and may reduce the yield by 50 per cent. Only a few lice are found on the early cabbage crop.
- Indiana J. J. Davis (May 22): The cabbage aphid was abundant and destructive to cabbage at Bourbon. May 18.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylis comstana Frohl.)

Indiana

J. J. Davis (May 22): The strawberry leaf roller was reported as damaging strawberries at Mill Creek May 14.

OBLIQUE-BANDED STRAWBERRY LEAF ROLLER (Cacoecia obsoletana Walk.)

North Carolina

W. A. Thomas (May 12): The work of this insect is much more in evidence this season than ever before observed in the Chadbourn district. It is not likely that any serious damage will occur.

STRAWBERRY ROOT WEEVIL (Brachyrhinus ovatus L.)

Utah

G. F. Knowlton (May 21): The strawberry root weevil is seriously damaging old strawberry patches at Logan. The plants have been going down very rapidly during the past week.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

New Hampshire

P. P. Lowry (May 28): The strawberry weevil was reported May 26 as doing considerable injury to a large field of strawberries at Pomeroy.

New York

Weekly News Letter, N. Y. State Coll. Agr. (May 19): There is evidence of the work of the strawberry weevil in Columbia County.

Warland

E. N. Cory and assistants (May 20): The strawberry weevil is injurious on strawberries and blackberries.

Virginia

W. A. Thomas (May 21): A small area of cultivated blackberries was observed today which had more than 75 per cent of the entire crop destroyed by this insect. Strawberries in the same locality seem to be less seriously affected.

North Carolina

W. A. Thomas (April 28): The strawberry weevil reached its peak of activity on dewberries at Willard this week. The outbreak has been unusually severe on the test farm at Chadbourn, destroying from 40 to 60 per cent of the entire crop. The injury appeared to be much greater where the plants were trained on wire trellis than where merely trained to stakes. There were more available buds on the trellised plants.

A BEETLE (Tyloderma morbillosa Lec.)

London

Wm. W. Baker (May 17): This weevil is raising havoc in a number of strawberry fields, being particularly noticeable in new plantings close to old deserted fields at Grand Round. One field examined had as high as 45 to 50 adults to a plant and the

feeding punctures and egg punctures had practically killed the plants outright in a week. For the first time concrete evidence of its breeding in wild strawberries in native sod was obtained.

A SCARABÆID (Diplotaxis sp.)

Kansas R. L. Parker (May 22): Diplotaxis sp. was reported attacking strawberries at Coffeyville. Reported as numerous.

STRAWBERRY ROOT WORM (Paria canella Fab.)

Virginia W. A. Thomas (May 21): This insect seems to be widespread in the strawberry fields in the vicinity of Onley and is already leaving the foliage filled with irregular holes. Some of the growers reported that this insect caused the complete loss of a few acres of strawberries last season.

Indiana J. J. Davis (May 22): Strawberry root worm was conspicuously injuring foliage at Tipton May 14.

A SESEID (Aegeria bibionipennis Boisd.)

Washington Wm. W. Baker (May 5): Larvae of this moth were taken in wild strawberry crowns at Easton.

STRAWBERRY ROOT APHID (Aphis forbesi Weed)

North Carolina W. A. Thomas (May 1): There seems to be an increasingly large number of these insects in crowns of young strawberry plants. Where the infestation is particularly heavy on the stems and foliage the plants are dying.

RED SPIDERS (Tetranychus spp.)

Mississippi K. L. Cockerham (May 10): On two rows of English peas in a garden at Biloxi practically every plant showed heavy infestation. I do not recall as heavy infestation by red spiders on any crop during the past several years.

New York Weekly News Letter, N. Y. State Coll. Agr. (May): In one field of strawberries in Suffolk County the red spider was causing serious damage. Luckily this field was under irrigation and the insects were easily controlled.

Maryland E. N. Cory and assistants (May): The red spider is appearing on strawberries on the Eastern Shore.

Florida J. R. Watson (May 20): The red spider is fairly abundant on strawberries, beans, and other plants.

SPITTLE BUGS (Cercopidae)

shington

Wm. W. Baker (May 9): Two species of spittle bugs are rather thick this season, particularly at Winlock and Chehalis. Some dwarfing of the plants occurs and the fruit spurs are seriously injured; in severe cases practically no fruit develops on heavily infested spurs.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

laware

L. A. Stearns (May 20): The first emergence of the Mexican bean beetle at Camden occurred May 6.

rginia

P. J. Chapman (May 22): The first adult was found in a snap-bean field May 1 and several others were observed May 3 and 4. The dry weather however appeared to retard emergence and for practical purposes emergence did not start until after the rains of the middle of May. Young beans an inch or more long may now be found in the earliest plantings of snap beans and some picking may be done about June 1. According to our hibernation cages, many beetles survived the winter in this area. A cage located in a pine woods (Pinus taeda) shows a 36 per cent survival up to this date; and another cage in a mixed pine and oak woods also shows a 36 per cent survival. It appears likely that one or more of our cages may eventually show a 50 per cent survival. The first eggs were found on this date.

North Carolina

W. A. Thomas (May 2): Overwintering adults are attacking both string and lima beans and ovipositing rather heavily on the foliage at Chadbourn.

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C. H. Alden (May 21): The Mexican bean beetle is scarce at Cornelia; few old beetles out.

etucky

W. A. Price (May 21): The Mexican bean beetle is very very abundant over the entire State.

Mississippi

Jack Milton (May 20): The Mexican bean beetle is scarce, but an adult beetle was found at Ripley.

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F. L. Thomas (May 22): The Mexican bean beetle is moderately abundant in El Paso.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

linia

P. J. Chapman (May 22): Injury was severe in some small patches of snap beans, starting about May 5 and subsiding considerably at this date.

North Carolina W. A. Thomas (May 9): Beans and cowpeas at Chadbourn are suffering rather severely from attacks of the bean leaf beetle. Already the young plants have much of the foliage riddled by this insect.

South Carolina F. Sherman (May 19): The bean leaf beetle has been reported a number of times, usually with plenty of specimens to show its abundance.

Georgia S. C. Chandler (May 16): The bean leaf beetle did moderate to severe injury to green beans in the southern end of the State.

Mississippi R. W. Harned and assistants (May): Bean leaf beetles were reported as abundant on garden beans at Hattiesburg, Senatobia, and Collins during the last week in April. The correspondent at Collins wrote: "The beans in this garden were about four inches high. The leaves on the plants were eaten entirely up." This insect is doing some damage in the vicinities of Laurel, Corinth, Ocean Springs, and Yazoo City, and serious injury has been reported from Jonestown.

IMBRICATED SNOUT BEETLE (Epicaerus imbricatus Say)

Mississippi R. W. Harned (May 21): Specimens were received on April 22 from Hattiesburg, and on April 29 from Leesville, where they were reported as fairly abundant on garden beans.

BEAN APHID (Aphis rumicis L.)

Virginia G. E. Gould (May 22): After being practically absent in the vicinity of Norfolk last year, the bean aphid has been found on beans and several weeds this spring.

PEAS

PEA APHID (Illinoia pisi Kalt.)

Maryland E. N. Cory and assistants (May 20): Pea aphids are worse on the Eastern Shore than for many years.

Virginia G. E. Gould (May 22): This insect has been observed on vetch, alfalfa, clovers, garden peas, and sweet peas at Norfolk. Individuals are not so numerous as last year.

CUCUMBERS

MELON APHID (Aphis gossypii Glov.)

Virginia G. E. Gould (May 22): This aphid is appearing earlier than last year, having been found on squash, cantaloupe and cucumber. There have been no reports of serious infestation yet.

Florida J. R. Watson (May 20): The melon aphid became quite abundant and widespread on watermelon the last days of April, but has been brought under control by hymenoptero^{us} parasites, so that very little injury is being done.

Mississippi H. Dietrich (May 20): Melon aphids were very bad in a watermelon field at Vernal previous to May 13.

MELON WORM (Diaphania hyalinata L.)

Florida J. R. Watson (May 20): The melon worm is proving troublesome in many parts of the State, particularly to summer squash and cantaloupe.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Delaware L. A. Stearns (May 20): First adults of the striped cucumber beetle were observed at Bridgeville May 9.

North Carolina W. A. Thomas (May 5): A large number of grovers at Chadbourn report great hordes of these insects appearing suddenly in their fields and in some cases almost destroying the crop over night.

Minnesota K. A. Kirkpatrick (May 9): The striped cucumber beetle is very abundant in Hennepin County.

Mississippi R. W. Harned and assistants (May): This insect is being reported as from moderately abundant to very abundant in practically all sections of the State.

Arkansas D. Isely (May 23): The striped cucumber beetle is moderately abundant in the cantaloupe sections of the Arkansas River bottoms, and practically absent in the southwestern part of the State.

ONIONS

ONION MAGGOT (Hydrotea irritans Meik.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May): The adults were emerging rapidly in Williamson County before the

cool weather of the week of May 19, which checked them somewhat. The first flies were observed in the field on May 15, which is earlier than last year. Flies were observed in large numbers in Oswego County May 22.

North Carolina W. A. Thomas (May 10): There is a very general infestation of this insect on onions in this section (Chadbourn). In many gardens the greater part of the epidermis is already eaten from the foliage.

Indiana H. K. Riley (May 20): Maggot flies began emerging in the laboratory. Maggot flies are observed daily in onion fields, in baited traps, and in bait pans. A small number of eggs were found at the E. Thwaitt farm; these were near a baited flytrap.

J. J. Davis (May 22): The onion maggot is reported as an important pest at Sheridan, Cromwell and Corunna.

CARROT

CARROT RUST FLY (*Psila rosae* Fab.)

New York Weekly News Letter, N. Y. State Coll. Agr. (May 19): Carrot rust flies are making an early appearance in Williamson County. Flies were present May 14 in a cage which was put up the day before, so it is quite possible that the first emergence was several days earlier.

BEETS

BEET LEAFHOPPER (*Eutettix tenellus* Bak.)

Nevada G. G. Schweis (May 20): The beet leafhopper is reported as being present in limited numbers at Fallon.

Utah G. E. Knowlton (May 19): Beet leafhoppers are moderately abundant in northern Utah. A number succeeded in passing over the winter, and a new generation is coming on. A few nymphs in the second and third instar have been taken. Up to date only a few of the beet fields have been invaded at Magna, West Garland, Bothwell and Salt Lake. The cold, stormy weather has been holding back the insects as well as the beets. (May 24): Males of the beet leafhopper were collected west of Corinne, south of Lamo, at Kosno, and at Snowville.

SUGAR BEET FLEA BEETLE (Monoxia puncticollis Say)

tah

G. F. Knowlton (May 3): Flea beetles are usually less abundant on sugar beets in Salt Lake and Utah Counties than in Box Elder and Weber Counties. (May 13): Black flea beetles are still doing some damage to sugar beets at Thatcher, Garland and Tremonton, but in most places they are less abundant than two weeks ago.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

orth Carolina

C. H. Brannon (May 24): Injury which started in plant beds is rapidly spreading to tobacco in the field.

GARDEN SPRINGTAIL (Smithurus hortensis Fitch)

assachusetts

A. I. Bourne (May 22): Tobacco growers in the Connecticut Valley are being troubled considerably this year by garden springtails which are working in the tobacco beds.

TOBACCO BUDWORM (Chloridea virescens Fab.)

lorida

F. S. Chamberlin (May 5): Tobacco budworms are unusually scarce for this season of the year in Gadsden County.

HORNWORMS (Protoparce spp.)

lorida

F. S. Chamberlin (May 22): Tobacco hornworms are very abundant at the present time.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

lorida

W. E. Haley (May 12): A very low infestation of the sugarcane borer was found in the Everglades section of Florida, with the exception of a small area at Canal Point. Near Sarasota, however, the infestation was very heavy. At Fellsmere, Indian River County, no borers could be found.

uisiana

T. E. Holloway and J. W. Ingram (May 22): A few corn plants containing larvae of the sugarcane borer were found today in a garden near Raceland. No borers were found in the general field plantings of corn. Today we found a number of young sugarcane plants killed by the borer near Houma. They contained larvae of various sizes and one pupa.

Louisiana W. E. Hinds (May 30): The sugarcane borer is unusually scarce throughout the sugarcane section up to this time.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Louisiana T. E. Holloway and J. W. Ingram (April 25): The sugarcane beetle has appeared in fields of sugarcane in southern Louisiana, but the damage so far noted has been negligible.

W. E. Hinds (May 30): Sugarcane beetle is more abundant than usual and is damaging stands of corn and sugarcane in more localities and on a wider variety of soil types than heretofore. We are starting an intensive study of this beetle as a cane and corn pest in Louisiana.

RICE

RICE WATER WEEVIL (Lissorhoptrus simplex Say)

Louisiana W. A. Douglas (May 24): The weevils are present in about the same numbers as in 1929. Very slight injury is noted to the leaves of young flooded rice, where water has recently been put on. No injury has been observed that is noticeable without close inspection.

SUGARCANE BEETLE (Euetheola rugiceps Lec.)

Louisiana W. A. Douglas (May 24): Fields of young rice have been examined during the month, and the injury from the sugarcane beetle varies from slight to very heavy. In a few fields more than 50 per cent of the young stalks on the levees and high places in the fields have been chewed off. Injury is greater than in 1929.

F O R E S T A N D S H A D E - T R E E I N S E C T S

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Nebraska M. H. Swenk (May 13): On April 22 a Pawnee County correspondent reported that the bagworm was destroying a fine windbreak of 35-year-old cedars on his place.

SATIN MOTH (Stilpnotia salicis L.)

Maine H. B. Peirson (May 15): This promises to be a heavy insect year; the satin moth is very abundant in the vicinity of Augusta.

GIPSY MOTH (Porthetria dispar L.)

Maine H. B. Peirson (May 15): A heavy infestation of the gipsy moth is expected this year.

SPRING CANKER WORMS (Paleacrita vernata Peck)

Minnesota

R. N. Chapman (May 26): The spring canker worm is abundant along the Mississippi River near Fort Snelling.

Kansas

H. B. Hungerford (May 29): Spring canker worms are defoliating elm trees in woodlands in Douglas County.

ASH

ASH SAWFLY (Tomostethus bardus Say)

Maryland

E. N. Cory (May 20): The ash sawfly occurred in large numbers in the vicinity of Riverdale, defoliating practically all the ash trees.

ASH LEAF BUG (Neoborus illitus Van D.)

California

E. O. Essig (May 17): This insect caused leaves of the infested trees to turn yellow.

BOXELDER

BOXELDER APHID (Periphyllus negundinis Thomas)

South Dakota

A. L. Ford and H. C. Severin (May 20): The boxelder aphid is more severe in eastern South Dakota than it has been for the past ten years.

Nebraska

M. H. Swenk (May 13): The boxelder aphid was abundant and injurious on boxelder during the first half of May.

ELM

A LEAF BEETLE (Calligrapha scolaris Lec.)

Nebraska

M. H. Swenk (May 13): On April 21 a correspondent reported that the elm trees along Elm Creek in Webster County were infested with thousands of leaf beetles which were eating the buds and young leaves as fast as they came out. Injury by this species occurred in June, 1929, in the same locality, and along the Republican River east to Nuckolls County and west to Furnas County.

ELM SCURFY SCALE (Chionaspis americana Johns.)

Nebraska

M. H. Swenk (May 13): An unusual number of complaints of infestations of white elms by the white elm scale have been received.

EUROPEAN ELM SCALE (Gossyparia spuria Mord.)

Ohio

E. W. Mendenhall (May 10): The elm shade trees in Sidney (Shelby County) are quite badly infested.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

Maine

H. B. Peirson (May 19): The larch case bearer migrated to foliage in the vicinity of Augusta May 12. A very heavy outbreak is occurring. Twenty-five per cent of the trees are already completely defoliated. Repeated defoliations by this insect have killed considerable larch in this section of Maine. We have not succeeded in rearing any parasites.

MAPLE

MAPLE NEPTICULA (Nepticula sericopeza Zell.)

Connecticut

E. P. Felt (May 26): The moths are somewhat common on Norway maples in southern Fairfield County. It is possible that this insect may be somewhat injurious and cause a considerable dropping of foliage.

New York

E. P. Felt (May 26): The moths are somewhat common on Norway maples in portions of Westchester County.

COTTONY MAPLE SCALE (Fulvianaria vitis L.)

Alabama

J. M. Robinson (May 24): The cottony maple scale has shown up in large numbers on maple leaves at Birmingham.

OAK

A LEAF ROLLER (Agranoloxa semipurpurana Kearf)

Connecticut

E. P. Felt (May 26): Oak leaf rollers, mostly Agranoloxa semipurpurana, are exceedingly abundant and injurious to oaks, especially red oaks, in southwestern Connecticut, half to three-fourths of the foliage being destroyed at the present time. This insect has been injurious for several years.

PINE

PINE BARK APHID (Chermes pinicorticis Fitch)

Ohio E. W. Mendenhall (May 14): An outbreak of the pine bark louse on pine trees is occurring at Willoughby and at Mentor.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

Vermont H. L. Bailey (May 26): Many pine twig moth larvae were found in burrows in a Jack pine plantation at Lyndon; also in native Pinus rigida at Hartland and Scotch pine at Essex.

Connecticut R. B. Friend (May 24): Infestation of red pine around New Haven is apparently increasing.

New Jersey T. E. Snyder (May 31): This insect is injuring pines at the State Hospital at Bergen.

WHITE PINE WEEVIL (Pissodes strobi Peck)

Maine H. B. Peirson (May 15): The white pine weevil was active April 15.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Connecticut Neely Turner (May 20): Eggs at New Haven hatched from May 8 to 15, which is 10 days earlier than in 1929.

Minnesota A. G. Ruggles (May 26): The pine leaf scale is very abundant at Lake City, St. Paul and Minneapolis. Eggs began hatching at Lake City on May 6 and in the latter named locality on May 8 and were still hatching at both places on May 23.

NORTHERN MOLE CRICKET (Gryllotalpa hexadactyla Perty)

North Carolina F. H. Claridge (May 2): Specimens of two insects caught in the Nursery of the State Conservation and Development Department near Clayton, were determined by A. N. Caudell as Gryllotalpa hexadactyla Perty. The insects were not caught in the act of eating the seedlings, but small runways very much resembling a miniature mole path were found. The seedlings attacked are longleaf, shortleaf, slash, loblolly, and some red pine which were being used to experiment with. The seedling is usually pulled down into the ground and the stem eaten off. The greatest damage is noticed in seedlings ranging from a month to three months old.

SPRUCE

SPRUCE BUDWORM (Harmolosa fumiferana Clem.)

Wyoming

Monthly Letter of Bur. Ent., U. S. D. A., No. 192 (April): The Deficiency Bill carried \$10,000 for experimental control of the spruce budworm in the Cody Canyon of the Shoshone National Forest. This is the east entrance to the Yellowstone National Park. A severe infestation of the spruce budworm has been progressing here for three or four years.

A LEAF MINER (Epinotia nanana Treitschke)

Maine

H. B. Peirson (May 5): This insect (Epinotia nanana) promises to do a great deal of damage.

Wisconsin

E. L. Chambers (April 25): The spruce needle miner is being reported more abundant than usual on spruce in southern Wisconsin. It is becoming more serious on our ornamental evergreens. (May 22): This insect is doing severe damage this year. Specimens are coming to this office every day.

Illinois

W. P. Flint (May 19): The spruce leaf miner has been sent in from several points in northern Illinois with the report that it is causing very serious injury.

SPRUCE GALL APHID (Chermes abietis L.)

New England,
New Jersey and
New York

E. P. Felt (May 26): This insect is generally present in the New Jersey, New York, and New England area and is somewhat local in habit, occasional trees or groups of trees being badly infested, while others, even those near by, may be nearly free. The indications are that there will be at least a moderately good sized generation this season.

Ohio

E. W. Mendenhall (May 14): Some spruce gall aphids are present in blocks of spruce at Painesville, Lake County.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

APHIDS (Aphiidae)

Georgia O. I. Snapp (May 20): Aphids are apparently more abundant here this year than usual. They are damaging plantings around homes.

Missouri L. Haseman (May 27): Snowballs, common spirea, as well as shade and fruit trees, have developed unusually heavy infestations of plant lice through central Missouri.

Nebraska M. H. Swenk (May 13): Snowball aphids (Aphis viburnicola Gill) were abundant and injurious on snowball during the first half of May.

Utah G. F. Knowlton (May 19): Two species of aphids are damaging snowball bushes in most parts of northern Utah.

A SPANWORM (Melanchroia chephise Cram.)

Florida J. R. Watson (May 20): Heavy infestations of caterpillars occurred in Polk County on the ornamental plant Phyllanthus. Large hedges of this plant were practically defoliated.

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

Ohio E. W. Mendenhall (April 30): Pelargonium, salvia, ageratum, lantana, heliotrope, fuchsia, hibiscus, and geranium are badly infested with the greenhouse whitefly in some of the greenhouses in Springfield, Clark County.

FUNGUS GNATS (Mycetophilidae)

North Dakota J. A. Munro (May 21): Specimens of fungus gnat larvae (species undetermined) were received from Judson, Morton County, on May 16. They were reported as being abundant in hotbeds and responsible for stunting the development of young plants.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

Connecticut M. P. Zappe (May 12): This insect is causing considerable injury on ornamental plantings of arborvitae.

AN APHID (Dilachnus sp.)

Mississippi H. Gladney (May 15): An aphid (Dilachnus sp.) is very abundant on arborvitae at Ocean Springs.

D. W. Grimes (May 19): Dilachnus sp. is very abundant in Holmes, Attala, and Leake Counties.

EUROPEAN FRUIT LECANIUM (Eulecanium corni Bouche)

Ohio E. W. Mendenhall (May 26): The European fruit lecanium is quite bad on arborvitae in a nursery at Cincinnati.

BOXWOOD

BOXWOOD LEAF MINER (Monarthropalpus buxi Labou)

Delaware L. A. Stearns (May 20): First emergence of the boxwood leaf miner at Wilmington occurred May 10.

CANNA

CANNA LEAF ROLLERS (Calpodes ethlius Cram.)
(Geshna cannalis Guaint.)

Mississippi R. W. Harned (May 21): The canna leaf rollers are beginning to make their appearance at various places. Complaints accompanied by specimens have ^{been} received from different parts of the State.

Texas F. L. Thomas (May 20): Worms of all sizes of the larger canna leaf roller are rather abundant on cannas. This insect has appeared the last several years about this time.

IRIS

IRIS BORER (Macronoctua onusta Grote)

Ohio E. W. Mendenhall (May 26): The iris borer is bad in many plantings in the State, where plants have been long standing.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Maryland J. A. Hyslop (May 28): At Avenel these beetles are seriously disfiguring the very late varieties of iris by feeding on the petals. They spend the night beneath the falls and in the throat of the blossom.

A MOTH (Cnephasia longana Haw.)

Oregon Wm. W. Baker (May 12): This pest was present in Portland in fair numbers in the buds of two kinds of iris, riddling the buds with fine holes.

POTATO APHID (Illinoia solanifolii Ashm.)

Washington, D.C. J. B. Parker (May 1): Aphids which are damaging iris plants at Brookland, D. C., have been determined by P. W. Mason as Illinoia solanifolii.

NARCISSUS

BULB MITE (Rhizoglyphus hyacinthi Boisd.)

Ohio E. W. Mendenhall (May 3): Many narcissus bulbs in plantings at Dayton are affected by bulb mites, which are probably a secondary cause of narcissus troubles.

OLEANDER

OLEANDER APHID (Aphis nerii Fonsc.)

Mississippi G. L. Bond (May 18): Aphids are very abundant on oleander around the City Hall at Laurel.

PRIVET

A MITE (Phyllocoptes sp.)

Maryland E. N. Cory and assistants (May 20): A Phyllocoptes mite is reported quite generally on privet.

ROSE

OBLIQUE-BANDED LEAF ROLLER (Cacoeia rosaceana Harr.)

Ohio E. W. Mendenhall (May 14): Found the rose leaf tyer quite numerous in a rose plantation at Willoughby, Lake County.

BRISTLY ROSE SLUG (Cladius isomerus Nort.)

Ohio E. W. Mendenhall (May 15): I find the bristly rose slug bad again in Columbus. It seems to be especially bad on the climbers and soon destroys the leaves.

SPIRAEA

SPIRAEA APHID (Aphis spiraeicola Patch)

- Indiana J. J. Davis (May 22): Spiraea aphids were reported abundant at Clayton May 12.
- Nebraska M. H. Swenk (May 13): The spiraea aphid was abundant and injurious on spiraea during the first half of May.
- Kansas R. L. Parker (May 22): Spiraea aphids were reported on spiraea from Chanute.
- Mississippi G. I. Worthington (May 14): Spiraea in Coahoma, Bolivar, Sunflower, and Washington Counties is generally infested by aphids, but the damage is of minor importance.

YEW

A MEALYBUG (Pseudococcus sp.)

- Connecticut W. E. Britton (May 20): This insect is very abundant on Taxus from Japan. Specimens were first identified in 1924 as P. kraunhiae, but Prof. Ferris has pointed out that kraunhiae is very different.

I N S E C T S A T T A C K I N G M A N A N D
D O M E S T I C A N I M A L S

MAN

CLOVER MITE (Bryobia praetiosa Koch)

- Connecticut W. E. Britton (May 21): Clover mites are crawling over the side of a house in New Haven and a school in New Britain; also found inside.
- New Jersey R. B. Lott (May 6): Mites were very abundant on an estate at Princeton, where they entered the house and caused much annoyance over a period of six weeks.
- Nebraska M. H. Swenk (May 13): At Lincoln several housekeepers complained of an abundance of the clover mite in the house during the last week in April and the first week in May.
- Kansas R. L. Parker (May 22): The clover mite is reported on wheat near Wichita.
- Utah G. F. Knowlton (May 9): The brown mite is damaging potatoes in the experimental greenhouse at Logan.

FLEAS (Siphonaptera)

Missouri

L. Haseman (May 27): Numerous complaints have been received during the month regarding serious epidemics of fleas, particularly on hog farms.

CHIGGER (Trombicula irritans Riley)

Mississippi

H. Dietrich (May 20): Chiggers are very abundant everywhere in southern Mississippi.

HORSE

HORSE FLIES (Tabanidae)

Mississippi

H. Dietrich (May 20): Horse flies (several species) are very abundant in George, Stone, and Jackson Counties, causing much annoyance to cattle and mules.

SHEEP

SHEEP TICK (Melophagus ovinus L.)

Missouri

L. Haseman (May 27): Sheep ticks are worse than they have been in six years in north-central Missouri.

HOUSEHOLD AND STORED -

PRODUCTS INSECTS

TERMITES (Reticulitermes spp.)

Maryland

E. N. Cory and assistants (May 20): Termites seem to be on the increase in Baltimore.

South Carolina

F. Sherman (May 19): Several inquiries and complaints have been received this spring of termites in woodwork of residences.

Illinois

W. P. Flint (May 19): Many reports of termite damage have been received.

Kansas

R. L. Parker (May 22): Termites were reported in Manhattan in six houses and in tomato plants from April 20 to May 20. They are also reported from Leonardville, Wamego, Medicine Lodge, Wichita, Eureka, and Oberlin in houses and farm buildings, and in Wichita in a storage building of a flour mill.

OLD HOUSE BORER (Hylotrupes bajulus L.)

North Carolina Z. P. Metcalf (May 12): It is reported that one of the powder-post beetles practically completely destroyed the timbers of a barn 40 by 60 feet.

ANTS (Formicidae)

Ohio T. H. Parks (May 21): Complaints of damage by ants to lawn grass have been received regularly during the month. We have had very dry weather during the past eight weeks, which may be responsible.

Michigan R. H. Pettit (May 16): Ants are very plentiful in lawns and in dwellings this year.

Nebraska M. H. Swenk (May 13): Complaints of injury in lawns and gardens, and annoyance in houses by ants, have continued to come in abundantly during the period here covered. As during the early part of April, these have mostly related to Formica fusca L. doing injury out of doors. Ants reported as annoying in houses included the little red ant (Monomorium pharaonis L.), the common large carpenter ant (Camponotus herculeanus pennsylvanicus DeG.), and one case each of the field ant (Lasius niger neoniger Emery) and Prenolepis imparis Say, the two last mentioned species from Holt County and Colfax County, respectively.

Kansas and Missouri R. L. Parker (May 22): Ants were reported on peony at Kansas City. Carpenter ants were reported in a house at Manhattan and in lawns and strawberry beds in Kansas City, Kans. and Mo. Red ants were reported in lawns and a basement at Kansas City, Mo.

Mississippi N. L. Douglas (May 15): Quite a few of the native ants, such as the honey ant, fire ant, tiny black ant, etc., are showing up now in Yalobusha, Grenada, and Montgomery Counties.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Maryland E. N. Cory (May 27): The Argentine ant was found in the Clifton Park greenhouses on February 6, and subsequently in the Carroll Park and Druid Hill Park greenhouses in Baltimore, but not in any commercial greenhouse establishment. (Identification by M. R. Smith.)

Mississippi N. D. Peets (May 21): The poisoning campaign against the Argentine ant conducted in March, 1930, seems, so far, to be giving excellent results. Numbers have reported as not being bothered with ants, while no one has reported any complaint in Copiah, Simpson, Lincoln, Lawrence, and Jefferson Davis Counties.

J. P. Kislanko (May 5): Many winged males of the Argentine ant were noticed in one colony at Bond on May 5.

W. L. Gray (May 17): The Argentine ant is very abundant in the vicinity of Natchez.

A WASP (Polistes pallipes L.)

Nebraska M. H. Swenk (May 13): A Sherman County correspondent reported that this social wasp built its nests in great abundance in his barn and about his house and that the insects were a great nuisance, buzzing around like flies and occasionally stinging if disturbed.

A LONG HORN BEETLE (Cerambycidae)

Indiana J. J. Davis (May 22): A cerambycid larva was received from Wheatland, May 9, with the information that it had issued from a 1-inch wooden bottom of a chair which had been in possession of the correspondent for 33 years. The wood of the chair bottom was supposed to be mahogany, but perhaps was only a hardwood with mahogany finish.

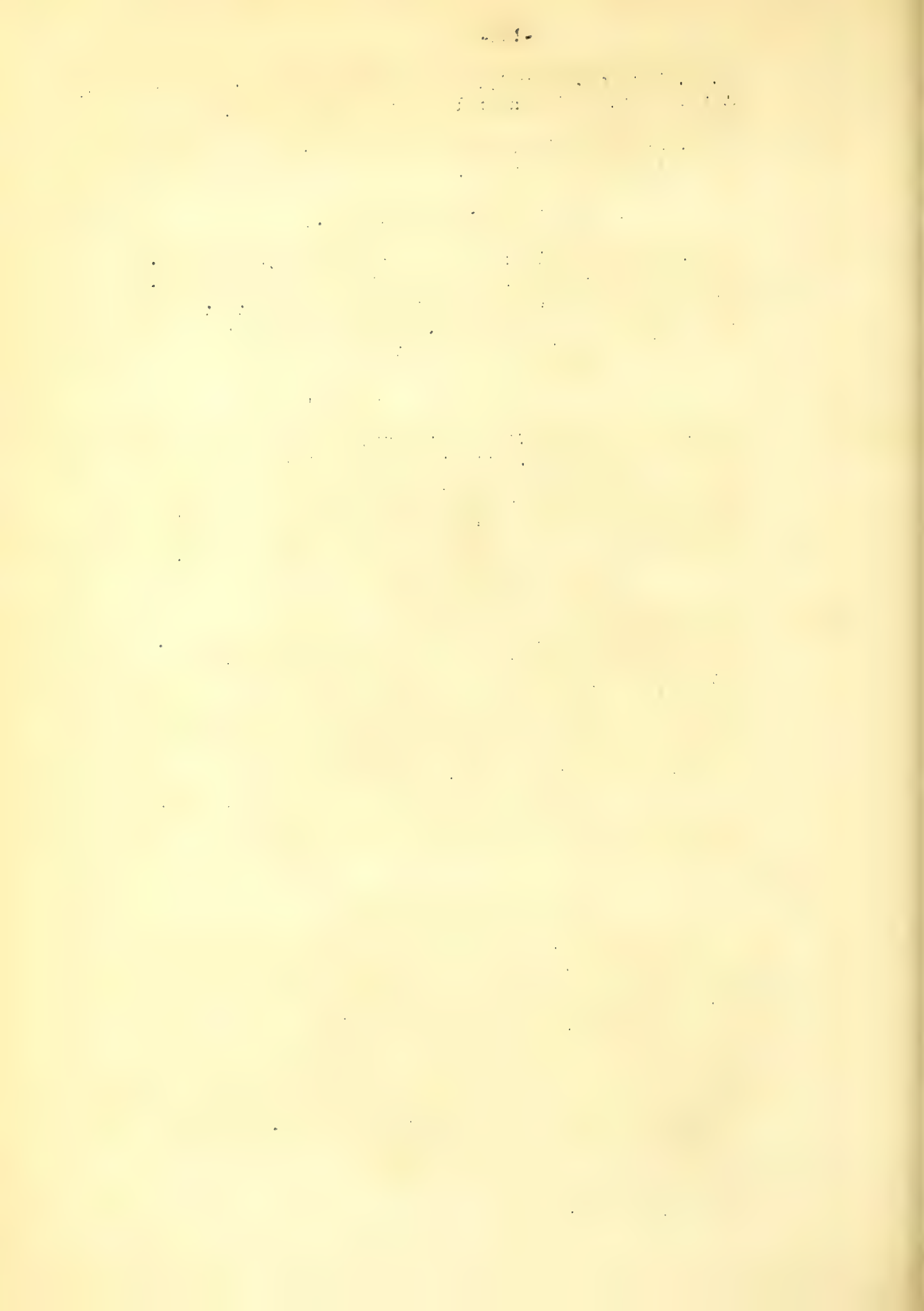
MITES (Tyroglyphidae)

Massachusetts J. V. Schaffner, Jr. (May 12): A Massachusetts corporation (manufacturers of felt products) sent in samples of their product that is used for visors of caps. They had noticed that some of the material was streaked and spotted, and had their chemist make an investigation. He found numerous small creatures crawling on the samples examined. It developed that, as this material is cut in large sheets and stacked in piles, perhaps 5 feet high, before it is entirely dry, it made conditions suitable for mites to breed. On arrival here the samples were dry and all specimens were dead.

A MITE (Haemogamasus sp.)

New York W. Moore (May 12): A pest which is causing us trouble is a mite which Dr. Ewing determined as a species of Haemogamasus. This mite originally came to us in a bag of rabbit fur infested with clothes moths. We again observed it in a rug, infested with clothes moths, obtained in Yonkers, the same rug previously mentioned containing parasitized clothes moths. I have no positive proof as yet, but feel very confident that this mite is attacking the eggs and larvae of the webbing clothes moth*. This is rather interesting, as the species of this genus are considered parasites of moles and field mice.

* Tineola biselliella Hum.



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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR JUNE, 1930

In spite of indications earlier in the season of grasshopper damage in parts of Montana, no serious damage has been reported as yet. The only outbreak of importance is in northern Michigan. Localized depredations are reported from parts of Missouri and southeastern Nebraska.

Cutworm outbreaks continued throughout the early part of the month in the Dakotas and Nebraska, westward to Colorado, Utah, and Montana.

An extensive outbreak of the white-lined sphinx on Russian thistle and mallow in Nevada is attracting considerable attention.

Wireworm depredations are being reported from the entire eastern half of the country from Maine to South Carolina and Mississippi and westward to the Dakotas.

White-grub injury continues to be serious in the North Central States eastward to Illinois.

The rose chafer is abnormally abundant throughout the Middle Atlantic and East Central States.

A very serious outbreak of the Hessian fly has developed in southeastern Nebraska.

The chinch bug appears to be building up a threatening population in Illinois, Missouri, and Oklahoma.

An outbreak of the armyworm is reported from Washington County, Iowa, and the fall armyworm is occurring in outbreak numbers in eastern North Carolina and southern Mississippi.

The corn ear worm was appearing about the middle of the month in destructive numbers in South Carolina and was quite generally prevalent southward. Corn shipped into Wisconsin from parts of the Gulf Region was 40 per cent infested.

Corn billbugs are attracting considerable attention in river-bottom land along the Illinois and Mississippi Rivers.

Apple leafhoppers appear to be more abundant than usual in the New England and Middle Atlantic States southward to Virginia and westward to Michigan, Indiana, and Tennessee.

Cankerworms have been seriously defoliating orchards in New York, Pennsylvania, Wisconsin, Minnesota, and North Dakota.

The first crawlers of the San Jose scale were observed in Indiana June 1 and in Washington State on June 10.

The plum curculio seems to be more prevalent than usual in the New England and Middle Atlantic States and decidedly less numerous than usual in the South Atlantic States.

The citrus aphid increased rapidly in central Florida during the latter part of June.

The seed corn maggot was unusually prevalent from New York southward to North Carolina and westward to Nebraska. Damage to melons and squash seed was also reported from Utah.

The vegetable weevil is now known to occur in 116 counties in the States of Louisiana, Mississippi, Alabama, and Florida. The spread to the northward is not so rapid this year as last.

During the last week in May and the first two weeks in June the Mexican bean beetle was observed throughout the northern part of the territory known to be infested last year.

The onion maggot has been reported as serious from scattered localities extending from New York westward across the northern half of the country to Montana and Utah.

Present indications are that the sugarcane borer will be less numerous than usual in the sugarcane-growing area in Louisiana.

The forest tent caterpillar is completely defoliating many varieties of hardwoods in Buckingham County, Va. In some cases areas up to 100 acres are infested. Similar reports but of less serious damage have been received from the northern part of Minnesota.

The ugly-nest caterpillar is heavily infesting trees in southeastern Maine and eastern Massachusetts.

The boxelder aphid is seriously damaging boxelder in South Dakota and Nebraska. This seems to be a year of severe aphid outbreaks in the East Central and West Central States.

Very serious damage to oak by the fruit tree leaf roller is reported from Wisconsin. The trees in some large stands are 70 per cent defoliated.

Somewhat serious infestations of the European pine shoot moth are reported from western Massachusetts and Connecticut and eastward to New York. This insect is recorded for the first time from Michigan.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR JUNE, 1930

Severe infestations of cutworms are noted from various sections of the Dominion, particularly in the west. In southeastern Saskatchewan an especially severe outbreak of the red-backed cutworm has resulted in much damage to field and garden crops. This insect is also a serious pest in sections of southern Manitoba, and reports from Alberta indicate that it has caused heavy damage in areas south of Calgary. North of this point there has been a reduction in numbers as compared with 1929. There is also a widespread outbreak of the pale western cutworm in Saskatchewan. In a considerable area occurring from Indian Head north to Balcarres and Abernethy, this cutworm destroyed the wheat crop to the extent of 50 per cent. Scattered reports of cutworm damage also have been received from British Columbia, Ontario, Quebec and the Maritime Provinces.

Outbreaks of wireworms, with resultant severe damage to grain crops in scattered areas, are noted from many localities in the Prairie Provinces. The principal species involved is Iudius cereipennis Kby. Wireworms are also attracting attention in sections of southern Ontario, their attacks being largely confined to corn and tobacco.

No grasshopper outbreaks of economic significance have yet been reported from any part of the Dominion.

Flea beetles of several species are again prevalent in many parts of the Dominion, reports of their depredations having been received from certain localities in almost every province.

The false chinch bug, Nysius ericae Schill., appeared in the Welling district south of Lethbridge, Alberta, attacking spring wheat. The last outbreak of this insect occurred over southern Alberta in 1923. It causes no serious injury to its host plant, but by destroying the primary leaves, alarms the farmers.

The onion maggot is an unusually severe pest this season in the Okanagan Valley, British Columbia.

Extensive flights of June beetles have been noted from Prince Edward Island, southern New Brunswick, southern Quebec, and locally in southern Manitoba.

The European chicken flea, Coratophyllus gallinae Schrank., has been taken for the first time in Canada at Fiverton, Ontario, where it was found infesting a house and attacking the inmates.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Florida J. R. Watson (June 20): Grasshoppers are moderately abundant in the Peninsula, in fact, rather more abundant than usual.
- Illinois W. P. Flint (June 16): Young grasshoppers are just hatching and apparently will be quite abundant in clover stubble.
- Michigan R. H. Pettit (June 27): An outbreak of grasshoppers has appeared in Michigan, complaints being received from Isle Royal, and the band of the infestation extends down at least as far as Benzie County in the northwestern part of the Lower Peninsula. From the appearance of the tiny nymphs the species will be Camnula pellucida for the most part. Enormous quantities of young hoppers are reported as just appearing.
- North Dakota J. A. Munro (June 20): A field trip made during the past two days through Cass County showed that newly emerged grasshopper nymphs were very scarce except in the vicinity of Amenia, where they were fairly abundant in grass lands.
- South Dakota H. C. Severin (June 18): Grasshoppers are just being noticed by farmers as being moderately abundant and inquiries are beginning to come in from northern and western South Dakota.
- Missouri L. Haseman (June 23): Grasshoppers are very abundant in Columbia. In meadows and dry pastures young nymphs are appearing in alarming swarms. Hatched about June 10.
- Nebraska M. H. Swenk (June 13): Grasshoppers (Melanoplus differentialis Thos.) have attracted considerable attention, and already have done some damage in vegetable and flower gardens. Serious injury in alfalfa and grain fields is expected later. The infested area includes southeastern Nebraska, especially the area east of the 98th meridian and south of the Platte River. (June 19): Grasshoppers are moderately abundant throughout the entire State.
- Tennessee G. M. Bentley (June 13): There is a 5 per cent increase over 1929 of grasshoppers (Schistocerca americana Drury) in Knox County.
- Mississippi R. W. Harned (June 21): Grasshoppers that have been tentatively identified by J. M. Langston as Melanoplus scudderi Uhl. were reported as very abundant in cotton fields in Valley Park on June 5. Considerable injury to the cotton, especially at the edges of the field, was reported.

- Montana W. B. Mabey (June 23): In spite of all indications of damage by grasshoppers this season, as yet they have not appeared in outbreak numbers. We have reports of grasshoppers hatching rather abundantly in Hill County and also in the southern part of Beaverhead County near Monida.
- Colorado C. P. Gillette (June 14): Grasshoppers are very abundant, especially in Adams and Weld Counties.
- Utah G. F. Knowlton (June 2): Young grasshoppers are quite abundant in sugar-beet fields at Saratoga and south of Salt Lake City. (June 18): Grasshoppers are now rather abundant in many parts of northern Utah. Adults of the red-legged grasshopper (Melanoplus femur-rubrum DeG.) are now present.
- Arizona C. D. Lebert (June): Several species of Melanoplus are are very abundant throughout the Salt River Valley; severe damage occurring to cotton, young citrus, and alfalfa in the vicinity of Levine. Hoppers are very numerous on alfalfa near Chandler. Considerable damage to ornamentals is reported in the vicinity of Phoenix. Melanoplus atlantis Riley is especially numerous on alfalfa near Chandler.
- Africa O. S. Heizer (Consul) (May 12): (Excerpt from Review of Commerce and Industries for the quarter ended March 31, 1930): Large numbers of locusts are moving northwards and it is feared that the spring crops will be destroyed. Already the cereals have been attacked. These insects have arrived in the north in their red state this year, and up to the present have done comparatively little damage. The red locust does not eat, its digestive tube being compressed by reserve matter accumulated before taking flight. It is so organized that it can accomplish long air trips without nourishment. It seldom reaches the littoral except in a clement year like the present one, because it changes to a yellow color while crossing the Atlas Mountains and comes down to the littoral in this state about March. The yellow locust is voracious. It lays its eggs in fertilized ground or in dried river beds. The eggs take fifteen to twenty days to hatch and then the band moves forward, destroying all vegetable life. Already, fields have been attacked in southern Oran and Constantine, while at Biskra nearly 2,500 acres are reported to be contaminated.

CUTWORMS (Noctuidae)

- Ohio E. W. Mendenhall (June 6): The cutworm Agrotis unicolor Walk., was quite troublesome in Clark and other counties in southwestern Ohio.
- Minnesota A. G. Ruggles and assistants (June): Cutworms continued to be reported during the first half of the month from practically all parts of the State and as seriously abundant in the central and southern parts of the State.

North Dakota

J. A. Munro (June 20): A number of reports of cutworm injury, particularly to cereal crops, have been received from points in Pembina, Adams, Divide, Cavalier, Ramsey, Nelson, Cass, and Steele Counties. A report turned in by Mr. M. W. Fitzsimonds indicated that cutworms had completely destroyed 500 acres of flax on a farm at Neche, Pembina County. In this latter case the worms were identified as the red-backed cutworm (Euxoa ochrogaster Guen.). Mr. R. C. Powell, county agent of Nelson County, sent in specimens of this species and stated that they were doing considerable damage to flax fields in his county. He states that these worms are working on the high land only and have completely taken patches of half an acre or more in the fields.

South Dakota

H. C. Severin (June 18): Cutworms are very abundant, being general over the State but more abundant in the eastern half.

Nebraska

C. N. Ainslie (June 7): The first planting of corn is being very seriously damaged in several counties of northeastern Nebraska by two or three species of cutworms. The species most numerous in sandy soils is Euxoa detersa Walk.

M. H. Swenk (June 13): Cutworms are proving quite troublesome in the cornfields, cutting the young corn plants. In numerous cases the replanting as well as the original planting has been taken. Such injury is more or less general over eastern and southern Nebraska, but cutworm depredations have been especially severe in the Elkhorn Valley. Antelope County is suffering the greatest damage, but injury is severe in the

lighter soils of Pierce, Madison, Stanton, and Cuming Counties also. Euxoa detersa Walk. is the chief offender in that section, but other species are also present there and elsewhere in damaging numbers. (June 13): Moths of the army cutworm (Chorizagrotis auxiliaris Grote) have been flying in great numbers in western Nebraska during the period from May 15 to June 15, especially during the last week in May and the first week in June. These are the aftermath of the heavy army cutworm infestations in some of the wheat and alfalfa fields in that region during the period from March 15 to April 15. The moths get into houses and other buildings in great numbers, and are much complained of as a severe annoyance.

Montana

W. B. Mabey (June 23): The pale western cutworm (Porosagrotis orthogonia Morr.) has increased considerably this season through the central part of the State and only within the area in which it was forecast. The damage has been limited to small patches but has been quite general. (June 23): The red-backed cutworm (Euxoa ochrogaster Guen.) is still quite abundant in Ravalli County, doing considerable damage to sugar beets.

Colorado.

C. P. Gillette (June 14): Cutworms are very abundant, causing especially serious damage to head lettuce, in northern Colorado.

Utah

G. F. Knowlton (June 3): Cutworms are damaging corn and late-planted tomatoes in Box Elder and Weber Counties. Cutworms have been doing considerable damage to late tomatoes in northern Davis County.

Oregon

L. F. Rockwood (May 31): Five times as many moths of Agrotis c-nigrum L. were taken in bait traps in May, 1930, as in May, 1929, three times as many of Lycophotia margaritosa Haw., and only one-seventh as many of Agrotis vosilon Rott. at Gaston and Forest Grove, while twelve times as many Feltia vancouverensis Grote were collected at the same place. Neuria procincta Grote was scarce on the bent grass meadows near Coquille. On a wet meadow mostly grown up to sedges but with some bent grass, from 10 to 15 larvae in the second and third stages were taken per 50 sweeps of the net. Damage by this species to the bent grass seed crop is not anticipated this year. This species is much scarcer than usual in the Willamett Valley.

COTTON LEAF WORM (Alabama argillacea Hbn.)

Texas

F. L. Thomas (June 25): The cotton leaf worm is present in nearly all fields of the lower Rio Grande Valley.

WHITE-LINED SPHINX (Celerio lineata Fab.)

Nevada

G. G. Schweis. (June 28): A heavy outbreak is reported in four counties feeding mostly on Russian thistle and mallow. No cultivated crops attacked as yet.

WIREWORMS (Elateridae)

Maine

H. B. Peirson (June 20): Wireworms are moderately abundant at Augusta.

New Jersey

T. J. Headlee (June 1): Wireworms are very abundant in the central and northern parts of the State.

Pennsylvania

C. A. Thomas (June 8): Pheletes agonus Say has done considerable damage in the southeastern part of the State during late May and early June. In the first half of May the dry weather kept these larvae down in the soil, but after the rains of mid-May, they appeared near the surface and injured corn and truck crops. One 5-acre field of newly-planted corn in Montgomery County was plowed up and replanted after over 80 per cent of the grains had been ruined. Wireworms of other species were very scarce in this field.

- North Carolina J. N. Tenhet (June 3): Wireworms (Monocrepidius vespertinus Fab.) have been conspicuous by their absence this spring. There has been no damage in the South Carolina bright-tobacco belt. Not one heavily infested field has been found. (June 19): Emergence of adults is later than usual. The first click beetle of this species was collected today at Chadbourn.
- South Carolina J. N. Tenhet (June 14): Corn and cotton are suffering heavily as usual from the sand wireworm (Horistonotus uhleri Horn). At least one watermelon field was observed to be badly injured, and various truck crops at Brunson are suffering.
- Indiana J. J. Davis (June 20): Wireworms damaged corn at Kempton May 24.
- Illinois S. C. Chandler (June 14): Wireworms are very abundant in southern Illinois.
- Missouri L. Haseman (June 23): Wireworms are moderately abundant, the stand in some fields of corn being badly damaged.
- Minnesota A. G. Ruggles and assistants (June): Although reported from practically the entire southern part of the State, wireworms are seriously abundant in Brown and Morrison Counties only.
- North Dakota J. A. Munro (June 20): A previous report indicated that wireworms had caused serious injury to barley at Mandan. Reports since then have indicated that wireworms have caused much injury to wheat at points in Towner and Cavalier Counties. A farmer of Sarles, Cavalier County, reported on May 29 that wireworms had totally destroyed his 80 acres of wheat.
- South Dakota H. C. Severin (June 18): Wireworms are moderately abundant in northeastern South Dakota. A number of reports have been received of damage to corn.
- Nebraska M. H. Swenk (June 13): From Richard County during late May came reports of serious injury in cornfields by Melanotus cribulosus Lec. In one field these pests have been injuring the corn for the past three years, and this season they are destroying the stand.
- Oklahoma C. E. Sanborn (June 5): Wireworms are moderately abundant in the northwestern part of the State.
- Alabama K. L. Cockerham (June 5): Adults of the wireworm Heteroderes laurentii Guer. have been more numerous in Mobile County this year than ever before.
- Mississippi K. L. Cockerham (June 5): On May 31 the first specimens of Heteroderes laurentii ever found in Jackson County were collected

~~as was noted.~~ This makes the third county in Mississippi where this species has been found, specimens having been found in George and Harrison Counties in 1929.

Montana

W.B. Mabey (June 23): Wireworms are very abundant in Missoula County, especially in the trucking area near Missoula. They have also done considerable damage to wheat in Hill County.

PLAINS FALSE WIREWORM (Eleodes opaca Say)

Texas

F. L. Thomas (June 25): An extensive outbreak of false wireworm adults (probably Eleodes opaca) occurred the first week of June in the Panhandle of Texas.

WHITE GRUBS (Phyllophaga spp.)

Illinois

W. P. Flint (June 16): As expected, white grubs are beginning to cause serious damage in many cornfields in central and northern Illinois, some fields in central Illinois at the present time showing an average of from 2 to 12 grubs to the hill of corn and the grubs are not all as yet concentrating in the corn hills. It is already apparent that a number of these fields will not produce a profitable corn crop and they are being sown to soy beans or some other crop.

S. C. Chandler (June 14): Severe injury by grubs in one cornfield near Belleville, following sweet clover, has been observed.

Wisconsin

E. L. Chambers (June 24): White grubs are doing serious injury to corn and other crops in southern and western Wisconsin and heavy losses have been experienced in the State Nursery at Trout Lake where the seedlings are being destroyed by white grubs.

Minnesota

A. G. Ruggles and assistants (June): White grubs are reported as very abundant in Huston, Chippewa, and Waseca Counties.

North Dakota

J.A. Munro (June 20): White grubs are reported as causing serious injury to lettuce plants in the vicinity of Forest River, Grand Forks County, by Wm. R. Page, county agent. Another report by T. H. Kristjanson, county agent, indicated that white grubs are causing much damage to native pasture land.

Missouri

L. Haseman (June 23): White grubs are moderately abundant. Adults were still on the wing June 20.

Nebraska

M. H. Swenk (June 13): The first complaints of white grubs in strawberry beds were received during the second week in June.

Tennessee

G. M. Bentley (June 13): Adults of the white grubs or May beetles are very abundant in Knox County, feeding on apple leaves.

Alabama

J. M. Robinson (June 20): White grubs are moderately abundant on pecan foliage at La Fayette.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (June): Rose chafers are very numerous and doing slight damage in the lower Hudson River Valley.

Delaware

L. A. Stearns (June 20): The rose chafer was very abundant throughout the State and on many plants during the first two weeks in June.

Maryland

E. N. Cory (June 20): The rose chafer is reported in Anne Arundel and Prince Georges Counties.

Ohio

J. S. Houser (June 23): The rose beetle M. subspinosus is very destructive this season.

Indiana

J. J. Davis (June 20): The rose beetle was conspicuous in many parts of the State. The following specific records were received: Damaging grapes, peonies, spirea, and crabapple at Terre Haute, May 31; rose, apple, asparagus, and other fruits and vegetables at Hobart, June 11; corn, rose, and plum foliage and fruit at Pierceton, June 17; grape, rose, and peony at Macy, June 17; garden plants at Brimfield, June 14; and causing the death of chickens at Monterey, June 12; also damaging grapes and other fruits and causing the death of over 100 chickens at Plymouth, June 19.

Wisconsin

E. L. Chambers (June 24): County agents in Monroe, LaCrosse, Chippewa, and Eau Claire Counties report serious injury to corn from the rose chafer, and dozens of other reports received from various parts of the State indicate serious injury to many other plants.

FALSE CHINCH BUG (Nysius ericae Schill.)

California

E. O. Essig (June 24): The false chinch bug was destructive to many plants in Monterey, Santa Cruz, Santa Clara, Alameda, and Contra Costa Counties in May and June.

RED SPIDER (Tetranychus telarius L.)

Michigan

R. H. Pettit (June 13): The red spider, or some closely allied mite, is again working on raspberries in Berrien County. A call sent in by the county agent indicates that the situation is serious.

Mississippi

R. W. Harned and assistants (June): The red spider is very abundant on truck crops along the Gulf Coast.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Illinois

S. C. Chandler (June 14): The Hessian fly is moderately to very abundant in southern Illinois.

Iowa

H. E. Jaques (June 26): The Hessian fly is moderately abundant in the southern half of the State.

Missouri

L. Haseman (June 23): The Hessian fly is moderately abundant. The spring brood has not bred so abundantly as was expected, owing perhaps to the cold spring.

Nebraska

M. H. Swenk (June 13): A very serious outbreak developed in southeastern Nebraska during the period May 15-June 15, but that outbreak is not being reported on at this time since a special investigation is still in progress. A report on this outbreak will be made early in July.

WHEAT STRAW WORM (Harmolita grandis Riley)

Texas

F. L. Thomas (June 25): The wheat straw worm is abundant in Ochiltree and Gray Counties.

Oregon

T. R. Chamberlin (May): The first adults were swept in Linn County May 9, and they were common in sweepings in Clackamas County by May 22.

WHEAT JOINT WORM (Harmolita tritici Fitch)

Oregon

T. R. Chamberlin (May): Cool, rainy weather has so retarded issuance from the stubble that by May 22, 35 days after the first issuance, only one-half of the adults had emerged. In 1929 the first adults issued May 15 and one-half had issued by June 3, 19 days after the first issuance. Adults have not been swept abundantly from growing wheat at any time during the spring of 1930.

STEM MAGGOTS (Meromyza spp.)

Oregon

T. R. Chamberlin (May): Sweepings in the Tallamette Valley during April and May indicate that M. nigriventris Macq. is less abundant than usual throughout the valley and in some sections (Linn County) much less abundant. This condition is probably the result of the very dry fall of 1929, with little volunteer grain and fresh grass for the flies to oviposit upon and higher mortality among the flies before they were ready for oviposition. M. flavipalpis Malloch was scarce in sweepings during April and May.

CHINCH BUG (Blissus leucopterus Say)

- Illinois W. P. Flint (June 16): The spring has been very favorable to the chinch bugs, and in spite of the fact that their numbers had been greatly reduced by the unfavorable season of last year, they have been able to lay their full quota of eggs. These eggs have now hatched and a few small grain fields will contain enough chinch bugs to cause some damage to adjoining fields of corn. If the season continues favorable, chinch bugs will undoubtedly become abundant enough to cause considerable damage next season.
- J. H. Bigger (June 16): Chinch bugs were found scarce in a survey of the central and southwestern counties.
- Iowa H. E. Jaques (June 26): The chinch bug is moderately abundant in Floyd and Monroe Counties.
- Missouri F. M. Wadley (June 2): Reported as injurious around Nevada.
- L. Haseman (June 23): The chinch bug is moderately to very abundant. In the central part of Missouri, owing to the dry spring, red nymphs were very abundant and threatening on June 20. Most unexpectedly this pest has bred up in alarming numbers. Between it and the Hessian fly some wheat fields have been ruined. By June 20 the bugs were about one-third grown and ready to start for corn.
- Nebraska M. H. Swenk (June 19): The chinch bug is scarce.
- Oklahoma F. M. Wadley (May 13): Adults ^{were} swept at Stillwater from a grass not recognized as a favorable food plant, which suggests widespread prevalence of this insect. R. H. Painter reported that they have been injurious at Lawton for the past two years.

CORN

FALL ARMYWORM (Laphygma frugiperda S. & A.)

- North Carolina Z. P. Metcalf (June 20): There is a severe outbreak of the fall armyworm in Beaufort, Carteret, and Onslow Counties, attacking especially corn, cotton, tobacco, soy beans, and peanuts. Adults have not yet been reared and specific determination is doubtful.
- C. H. Brannon (June 16): This insect has caused widespread damage to corn in Craven, Jones, Onslow, and Beaufort Counties.
- Mississippi M. Brunson (June 10): This insect was found on grass

in cornfields on the above date. As yet no damage to corn was noticed. Parasitism seemed to be quite common at the time.

R. W. Harned (June 21): Southern grassworms have been very abundant in the southern half of the State during June. Young corn has been seriously injured, and in many cases fields have had to be replanted.

Louisiana W. E. Hinds (June 24): Laphygma frugiperda has been abundant in a few localities but not occurring in widespread general outbreaks this season.

CORN EAR WORM (Heliothis obsoleta Fab.)

North Carolina C. H. Brannon (June 18): The corn ear worm is causing severe injury to tobacco buds in many sections of the State. It is causing unusually serious injury to growing tips of corn.

South Carolina A. Lutken (June 13): Infested stalks were sent in by S. L. Jeffords of Spartanburg. The borers were feeding in tassels of young corn.

Wisconsin E. L. Chambers (June 28): A large shipment of sweet corn received in Washington County from the Southern States was heavily infested with ear worms. More than 40 per cent of the ears were reported infested by the county agent and an ear submitted for examination contained 6 large larvae.

Tennessee G. M. Bentley (June 13): The adults were just emerging in Knox County on May 27.

Alabama J. M. Robinson (June 20): Moderately abundant at Bay Minnette, Opelika, and Anniston, and very abundant on tomato at Goodwater.

Mississippi R. W. Harned and assistants (June): The corn ear worm is reported quite generally throughout the State and very abundant throughout the central part of the State.

Louisiana W. E. Haley (June 4): Young larvae and eggs were found at Raceland on corn silk.

STALK BORER (Papaipema nebris nitela Guen.)

Ohio T. H. Parks (June 9): These borers are moderately abundant and are being found in corn, where they are mistaken for the European corn borer by growers. We do not think they are more abundant than in the average year.

Indiana J. J. Davis (June 20): The stalk borer made its first appearance June 2, and frequent reports of injury have been

received since that time. To date, June 20, all larvae sent in have been quite small. General field infestations have been reported, more than in the past, due no doubt to grassy growths in fields last fall when the moths were laying eggs.

Ohio

E. W. Mendenhall (June 23): The stalk borer is found quite bad in hollyhock and phlox plants in gardens in Columbus.

J. S. Houser (June 23): The stalk borers are moderately abundant, found feeding in strawberry fruit.

Illinois

J. H. Bigger (June 16): The first report from Pike County was received June 10.

Iowa

H. E. Jaques (June 26): The stalk borer is moderately abundant in Pocahontas, Buchanan, Polk, Clarke, and Scott Counties.

Wisconsin

E. L. Chambers (June 24): Some cornfields in Monroe County were reported being injured, and specimens submitted were the common stalk borer.

Missouri

L. Haseman (June 23): The stalk borer is very abundant and is very serious on corn and garden crops. About one-half grown June 20.

Nebraska

M. H. Swenk (June 19): The stalk borer is moderately abundant in eastern Nebraska.

Mississippi

R. W. Harned (June 21): Considerable injury to tomato plants was reported on May 28 from Water Valley. A correspondent at Okolona reported on June 4 that he had observed several stalks of cotton injured by this insect.

LINED CORN BORER (Oligia fractilinea Grote)

Illinois

W. P. Flint (June 16): The lined corn stalk borer has been much more abundant than usual in northern and particularly in northeastern Illinois. Many specimens have been received from that section of the State.

SOD WEBWORMS (Crambus spp.)

Ohio

E. W. Mendenhall (June 6): The corn root webworm is quite bad in Greene, Preble, and Clark Counties this spring. Its destructive work caused replanting of corn.

T. H. Parks (June 25): Sod webworms, which were abundant the later part of May and early part of June, have ceased feeding, but during the month of June were reported damaging corn in widely separated areas of the western half of Ohio.

- Indiana J. J. Davis (June 20): Reports of injury to corn by the webworm were received from La Fayette (May 17), Rushville (May 26), Middletown (June 3), and Kempton (June 20).
- Kentucky W. A. Price (June 24): Sod webworms are still doing considerable damage to corn and tobacco in several counties in the State.
- Iowa H. E. Jaques (June 26): Sod webworms are moderately abundant in Winnebago, Buena Vista, Boone, Story, and Van Buren Counties.
- Missouri L. Haseman (June 23): On June 21 three different species of sod webworm moths were unusually abundant in central Missouri, coming to lights at night. There has been no serious outbreak affecting corn.

CORN ROOT APHID (Anuraphis maidi-radicis Forbes)

- Indiana J. J. Davis (June 20): The corn root aphid was reported June 7 as damaging corn in Jasper County. Probably the same species damaged melons at Morocco, June 16. (June 24): It was generally abundant in Spencer County. One 40-acre field was plowed up and replanted.
- Kentucky W. A. Price (June 24): The corn root aphid is doing notable injury to corn in Carter, Lincoln, and Elliott Counties.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

- North Carolina Z. P. Metcalf (June 20): The spotted cucumber beetle is very abundant.
- Indiana H. K. Riley (June 20): Cucumber beetles are numerous. Growers and canning company field men report them more than usually abundant, especially the spotted cucumber beetle.
- Kentucky W. A. Price (June 24): The 12-spotted cucumber beetle is doing much damage to corn in Menifee County.
- Wisconsin E. L. Chambers (June 24): Specimens of the spotted cucumber beetle were submitted by the county agent of Portage County, who stated that a large field of corn was being badly injured by the pest.
- Mississippi R. W. Harned and assistants (June): The spotted cucumber beetle is reported as very abundant in practically all parts of the State.
- Oklahoma C. F. Stiles (June 23): The spotted cucumber beetle is very abundant in central Oklahoma.

SEED CORN BEETLE (Agonoderes pallipes Fab.)

Missouri L. Haseman (June 23): There have been a few complaints of injury to corn during the month.

Nebraska M. H. Swenk (June 13): Seed corn beetles have been very numerous in many cornfields on low ground during the period in June here covered, and in a few localities, notably eastern Dodge County and southern Buffalo County, they have been doing considerable damage to the young corn.

SOUTHERN CORN LEAF BEETLE (Myochrous denticollis Say)

Ohio T. H. Parks (June 10): This insect was reported from Clermont County where it had badly damaged corn in two adjoining fields. A visit to the area showed that these fields had been uncultivated for ten years and had grown to wild grasses and brambles. The spring has been very dry and this land was very cloddy. This is the first report of this beetle damaging corn in Ohio for a long time.

Kentucky W. A. Price (June 24): The southern corn leaf beetle continues to damage corn and tobacco in Harrison County.

Missouri L. Haseman (June 23): A few complaints have been received from central Missouri during the month. On June 21 samples of larvae were received from Bonnots Mill.

CORN BILLBUGS (Sphenophorus spp.)

Indiana J. J. Davis (June 20): Corn showing old corn billbug injury was received from Hillsdale June 12 and Kempton June 20.

Illinois W. P. Flint (June 19): Billbugs have been reported causing serious damage along the Mississippi and especially the lower Illinois River bottoms. All cases of damage thus far are from either Sphenophorus callosus Oliv. or S. destructor Chitt.

Kentucky W. A. Price (June 24): The corn billbug is doing serious damage in Fulton County.

Missouri L. Haseman (June 23): During June complaints of injury have continued to come to the College of Agriculture.

CORN-FEEDING SYRPHUS FLY (Mesogramma polita Say)

Florida J. R. Watson (June 20): A heavy outbreak of the corn-feeding syrphus fly occurred in one field in Alachua County. The insects were apparently feeding on the pollen only. Many of them were in the tassels, but many were also crawling over the surface of the leaves, and in the latter case they were also apparently feeding exclusively on pollen. No commercial damage was apparent.

OATS

GREEN BUG (Toxoptera graminum Rond.)

- Indiana J. J. Davis (June 24): The green bug was reported by the County Agent of Spencer County as responsible for the "utter failure of oats in the county." We did not see specimens.
- Colorado C. P. Gillette (June 27): The green bug is moderately abundant in Morgan County.

SOY BEANS AND COW PEAS

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

- Florida J. R. Watson (June 20): The first adult of Anticarsia gemmatilis was found in Gainesville on June 16. This is rather early for their appearance in the Gainesville section and may indicate a rather heavy infestation for the year.

SALT-MARSH CATERPILLAR (Estigmene acraea Drury)

- Mississippi W. E. Hinds (June 24): The salt-marsh caterpillar has been abundant and damaging soy beans and cotton, especially in the lower part of Lafourche Parish, since the last week of May. The abundance decreases northward but is still considerable in many localities as far north as Baton Rouge.

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

- North Carolina C. H. Brannon (June 26): This species is reported to be causing serious injury to cowpeas in Edgecombe County.

CLOVER AND ALFALFA

LESSER CLOVER LEAF WEEVIL (Phytonomus nigrirostris Fab.)

- Maryland E. N. Cory (June 20): The lesser clover leaf weevil is reported as injuring beans in Talbot and Somerset Counties.
- Indiana J. J. Davis (June 20): The clover bud worm was very abundant and destructive to red clover in the vicinity of La Fayette.
- Illinois J. H. Bigger (June 16): The clover bud weevil is very abundant; it destroyed approximately 50 per cent of the buds of all clover in western Illinois.

-215-

ARMYWORM (Cirphis unipuncta Haw.)

Iowa H. E. Jaques (June 26): The armyworm is very abundant in Washington County. Eighty acres of clover has been totally destroyed and 100 acres of clover and timothy meadow infested in spots, with an estimate of 10 per cent loss.

ALFALFA CATERPILLAR (Eurymus eurytheme Boisd.)

Arizona C. D. Lebert (June): The alfalfa caterpillar is very abundant in adult stages in fields near Chandler.

F R U I T I N S E C T S

APPLE

APPLE APHID (Aphis pomi DeG.)

Connecticut M. P. Zeppe (June): Very few green apple aphids were reported at the beginning of the season in New Haven County, but they are becoming quite abundant on young trees.

New York Weekly News Letter, N. Y. State Coll. Agr. (June): These insects started to increase rapidly early in the month and by the end of the month were outnumbering the other species. They were particularly abundant in the lower Hudson River Valley.

New Jersey T. J. Headlee (June 1): Green apple aphids are moderately abundant in general.

Michigan R. H. Pettit (June 20): Fruit aphids are very abundant.

Minnesota A. G. Ruggles and assistants (June): Fruit aphids are very abundant in Lake, Brown, Waseca, Murray, and Hennepin Counties.

Utah G. F. Knowlton (June 18): The green apple aphids are damaging occasional trees throughout northern Utah.

ROSY APPLE APHID (Anuraphis roseus Baker)

New York Weekly News Letter, N. Y. State Coll. Agr. (June): By the middle of June the rosy apple aphid had been reduced to negligible numbers in practically all parts of the State. Practically no commercial damage was experienced this year.

Delaware L. A. Stearns (June 20): The rosy apple aphid is very abundant in New Castle County and moderately abundant in Kent and Sussex Counties.

Virginia

W. J. Schoene (June 11): Rosy aphids are causing considerable injury in many parts of the State. Aphids were generally absent or present in very small numbers when the delayed dormant spray was applied, with a result that the nicotine was omitted. In some orchards the injury will probably reduce the crop from 3 to 5 per cent.

Utah

G. F. Knowlton (June 18): The rosy apple aphid is severely injuring a few apple trees at Midvale, Bennion, and Taylorsville.

CODLING MOTH (Carpocapsa pomonella L.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (June): Side injury began to be observed in the western part of the State by the middle of the month and by the third week in the month was becoming quite conspicuous in the Hudson River Valley.

Delaware

L. A. Stearns (June 20): First emergence at Camden, May 3; first eggs, May 13; first larvae, May 22; first brood of larvae half-grown, June 16. Second cover spray just applied. Emergence of the spring brood still continues, covering a period of seven weeks to date.

Ohio

T. H. Parks (June): Adults of the overwintering brood are still emerging in small numbers at Columbus. Worms began leaving the apples about June 20. The brood is very much drawn out in all parts of the State. In Ottawa County, northern Ohio, our heaviest emergence of moths occurred June 21 to 25. In Lawrence County, southern Ohio, pupae were being found under bands June 21.

Indiana

J. J. Davis (June 24): Codling moth worms were leaving apple June 5 at Vincennes according to Lathrop and June 10 at Bedford according to Marshall. This was 8 days earlier at Bedford than last year. This would indicate a full and possibly larger third brood.

Illinois

W. P. Flint (June 19): Examinations throughout the State indicate that second-brood codling moths will begin hatching in southern Illinois about June 27 and that the first hatch of second-brood larvae will come at approximately the same time throughout the southern one-third of the State. The first-brood worms have not been abundant. In most of the sprayed orchards it is quite difficult at this time to find any wormy apples. There is a slight increase in the abundance of codling moths in western Illinois over that of southern and eastern Illinois.

S. C. Chandler (June 14): The last emergence of moths of the overwintering brood took place at Carbondale June 6.

Of 1,500 larvae put into winter quarters 158 emerged. The first pupation of larvae from apples took place on June 13 at Carbondale. In general the first-brood infestation in the orchards (sprayed and unsprayed) is light.

Missouri

R. M. Jones (June 19): The codling moth situation in the Ozarks looks better than at this time last year, owing largely to the severe winter and cool spring and more favorable weather for applying spray materials.

L. Haseman (June 23): Codling moths are reported in central and northern Missouri. First-brood moths are all out in central Missouri; some emerging in northwestern Missouri. Larvae of the second brood cocooning; few pupae; few moths of second brood out.

Alabama

O. I. Snapp (June 17): Infestation very heavy in summer apples at Fort Payne. A high percentage of the fruit contained larvae which entered through the calyx end.

Colorado

C. P. Gillette (June 14): The codling moth is moderately abundant in orchard areas. Because of light set of fruit, the damage will be serious.

Idaho

G. F. Knowlton and M. J. Janes (June 19): Codling moth worms are rather scarce in sprayed orchards, and less abundant than usual in unsprayed orchards.

Washington

Calif. Spray-Chemical Co. (May 26): The first record of codling moth eggs for this season was on May 12. Two eggs were found which had apparently been laid several days earlier. The first actual worm work reported this year was from the Kennewick district, on May 13. The first worm work found in our test orchard in the Broadway district, Yakima, was on May 18, when a single worm was found in a Jonathan apple. This worm appeared to have hatched about two days earlier and was just beneath the skin.

CANKERWORMS (Alsophila pometaria Harr.)
(Palaeacrita vernata Peck)

New York

E. P. Felt (June 23): A. pometaria was locally very abundant about Chappaqua, Westchester County, and in a number of Long Island localities, entire orchards having the foliage destroyed.

J. V. Schaffner, Jr. (June 12): A. pometaria was stripping many trees at Oyster Bay, L. I., as reported by A. E. Goodger on June 12.

Minnesota

K. A. Kirkpatrick (June 16): Very heavy infestations of P. vernata and A. pometaria in much of Hennepin County; elm and basswood trees in the lake district and many orchards entirely defoliated.

A. G. Ruggles (June 23): P. vernata and A. pometaria are about through doing damage this year. Worst outbreak of several years.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (June): Budmoth injury was quite severe in the western part of the State but practically negligible in the Hudson River Valley. By the third week in the month, injury had practically ceased.

CASE BEARERS (Coleophora spp.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (May): Case bearers are present in small numbers in both the Hudson River Valley and the lake regions; some injury is being done in unsprayed orchards in Orange and Niagara Counties.

RED-BANDED LEAF ROLLER (Eulia volutinana Walk.)

Ohio

T. H. Parks (June 6): The larvae have been attacking green apples in an orchard in Greene County and another in Delaware County. The Greene County orchard was seriously infested by the same insect last fall.

FRUIT TREE LEAF ROLLER (Archips argyrospila Walk.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (June): In the lower Hudson River Valley damage by leaf rollers is very conspicuous. They are also noted in a number of poorly sprayed orchards in the western part of the State.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Ohio

T. H. Parks (June): Much interest is displayed by apple growers concerning the control of the apple maggot this year. In cooperation with the Experiment Station, we are placing emergence cages in northeastern Ohio to trap the emerging flies in order to time the sprays. No flies had emerged prior to June 24.

Michigan

R. H. Pettit (June 11): Mr. G. S. Tolles has bred numbers of apple maggot adults from hawthorn collected both at South Haven and in the vicinity of Lansing. It is noteworthy that these puparia, kept since Christmas time at 70° did not produce adults sooner, waiting as they did until near the time when the outdoor emergence will occur.

LEAFHOPPERS (Cicadellidae)

Maine

H. B. Peirson (June 20): Apple leafhoppers are very abundant in general.

Massachusetts A. I. Bourne (June 23): Apple leafhoppers are moderately abundant.

Connecticut M. P. Zappe (June 21): Leafhoppers are more abundant for this time of the year than usual in New Haven County.

New York Weekly News Letter, N. Y. State Coll. Agr. (June): Apparently these insects are more numerous than usual, and by the third week in the month stippling of the foliage was conspicuous in Ulster, Clinton, Monroe, and Niagara Counties.

Maryland E. N. Cory (June 20): Apple leafhoppers are moderately abundant in Howard and Allegany Counties.

Virginia W. J. Schoene (June 11): The apple leafhopper, Typhlocyba pomaria McAtee, has been reported injurious in Augusta and Montgomery Counties. The adults of the first brood are now mature.

Ohio J. S. Houser (June 23): Apple leafhoppers are moderately abundant.

Indiana J. J. Davis (June 20): The apple leafhopper (Typhlocyba pomaria McAtee - DeLong det.) was reported abundant on apple at Bedford, June 1, by G. E. Marshall. (June 21): Apple leafhoppers are moderately abundant in southern Indiana.

Michigan R. H. Pettit (June 20): The apple leafhoppers are very abundant.

Missouri R. M. Jones (June 20): Apple leafhoppers are moderately abundant at Marionville. One grower reports their presence on apple nursery stock.

Tennessee G. M. Bentley (June 13): Apple leafhoppers are very abundant in Knox County.

APPLE REDBUG (Lygidea mendax Reut.)

New York Weekly News Letter, N. Y. State Coll. Agr. (June): Redbug injury was unusually severe in Dutchess, Yates, Niagara, and Ulster Counties.

APPLE FLEA WEEVIL (Orchestes pallicornis Say)

Missouri L. Faseman (June 23): The college orchard near Columbia showed a heavy infestation of apple flea weevils during late May, with new weevils beginning to emerge by June 12.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Indiana R. A. Sazama (June): San Jose crawlers began hatching about June 1, approximately 10 days earlier than usual.

- Kansas H. B. Hungerford (June 18): The San Jose scale is very abundant in southern Kansas.
- Mississippi R. W. Harned and assistants (June): The San Jose scale reported as very abundant and in many cases throughout the State.
- Washington Calif. Spray-Chemical Co. (June 12): The first crawling young of the San Jose scale for this year were found in a Fairview orchard of Yakima on June 10.

PEACH

PEACH BORER (Aegeria exitiosa Say)

- Indiana J. J. Davis (June 20): The peach tree borer was abundant on peach at Elkhart June 4.
- Kansas H. B. Hungerford (June 18): The peach borer has given trouble in our nurseries for the last two years and promises continued trouble.
- Mississippi R. W. Harned and assistants (June): The peach borer was reported as very abundant from the north-central and east-central parts of the State.
- Utah G. F. Knowlton (June 3): The peach tree borer is very common, and spring treatments have been required in some places in Box Elder County.

PEACH TWIG BORER (Anarsia lineatella Zell.)

- New York Weekly News Letter, N. Y. State Coll. Agr. (June): Reported during the first week of the month as causing considerable injury in Orange County.
- Utah G. F. Knowlton and M. J. Janes (June 19): Peach twig borer larvae are scarce at the present time, the first brood just beginning to appear on apricots.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

- Connecticut P. Garman (June 24): About the same in abundance as last year in Hartford and New Haven Counties.
- New York Weekly News Letter, N. Y. State Coll. Agr. (June): Injury is now being reported as quite prevalent throughout the State. The second brood began to appear about the third week in the month.

New Jersey

J. Gray (May): Oriental fruit moth larvae were very scarce during the first week of May in the vicinity of Moorestown. Twig injury in observed orchards was negligible on May 9. Orchards under observation in the vicinities of the following localities in southern New Jersey show larval infestation records as follows: Moorestown, 20-26 per cent; Haddonfield, 61 per cent; Barrington, 30-38 per cent; and Glassboro, 33 per cent.

Pennsylvania

T. L. Guyton (June 27): The oriental fruit moth is moderately abundant in Allegheny, Beaver, Washington, and Lawrence Counties.

Delaware

J. Gray (May): Some twig injury was found in a few localities near Dover May 13, but the infestation was not severe.

L.A. Stearns (June 20): Now we are having an interval between the first and the second broods. Parasitism by Macrocentrus ancylihora Rohw. is heavy.

North Carolina

Z. P. Metcalf (June 20): The oriental fruit moth is scarce.

Georgia

C. H. Alden (June 20): The oriental fruit moth is moderately abundant at Cornelia. Heavy twig injury.

O. I. Snapp (June 20): To date, the infestation at Fort Valley this year is the lightest since the insect became established in the middle Georgia peach belt. The number of injured twigs has increased in some orchards since the last report, but still not enough to materially affect tree growth.

Florida

J. R. Watson (June 20): The oriental fruit moth is moderately abundant in western Florida.

Ohio

E. W. Mendenhall (June 23): Peach trees show the effect of the oriental peach moth in Columbus and vicinity by the presence of dying twigs.

Indiana

J. J. Davis (June 21): The oriental fruit moth is very abundant in general.

Illinois

S. C. Chandler (June 14): There has been an increase in twig infestation by the oriental fruit moth over last year in all sections of the State, but greatest in Pulaski County at the top end of the State, where from 40 to 60 per cent of the terminals of thrifty growing young peach trees had been injured. North of Pulaski County the injury is much lighter. Occasional apples and pears are now being entered, as there are no peaches.

Kentucky

W. A. Price (June 24): The oriental fruit moth is moderately abundant.

Tennessee G. M. Bentley (June 13): The oriental fruit moth is scarce in Knox County.

Mississippi M. R. Smith (June 21): Damage to the terminal shoot of peach trees is quite common throughout the town of Louisville and is apparent in various sections of the town of Weir.

R. W. Harned (June 21): Peach twigs that had been injured by the larvae were received from Fulton and Sherman on June 8.

PLUM CURCULIO (Conotrachelus nemophar Hbst.)

Maine H. B. Peirson (June 20): The plum curculio is very abundant in general.

Massachusetts A. I. Bourne (June 23): The plum curculio is moderately abundant.

Connecticut P. Gorman (June 24): Very severe injury in nearly all orchards visited in Hartford County.

B. H. Welden (June 24): The plum curculio is very abundant.

Rhode Island A. E. Stone (June 26): The plum curculio is very abundant.

New York Weekly News Letter, N. Y. State Coll. Agr. (June): This insect is unusually serious throughout practically the entire State.

Delaware L. A. Stearns (June 20): Mature first-brood grubs have been issuing from drops in large numbers since May 23; severe injury to both the short peach crop and to early apples in the Bridgeville section.

Georgia O. I. Snapp (June 6): The first adults of the new generation emerged today from pupation boxes at Fort Valley. This record is perhaps a little earlier than the first emergence date in orchards, as we have supplied them with water at times whereas there has been no rain in orchards for seven weeks. Georgia Belle and Elberta may be attacked by second-brood larvae. (June 20): No second generation eggs have been deposited yet at Fort Valley. Hiley peaches are now being harvested, and we are anticipating no second-brood attack in that variety.

C. H. Alden (June 20): The plum curculio is moderately abundant at Thomaston and Cornelia. First-generation beetles emerging. Pupal stage in soil.

io J. S. Houser (June 23): The plum curculio is very abundant.

Illinois S. C. Chandler (June 14): Jarrings on unsprayed plum and apple trees have shown a considerable decrease in population of curculios since June 1.

Michigan R. H. Pettit (June 20): The plum curculio is very abundant.

GREEN PEACH APHID (Myzus persicae Sulz.)

Lawrence L. A. Stearns (May 20): Green peach aphids are more abundant throughout the State than at any time in the last four years.

A CICADA (Platypedia putnami Uhl.)

ch G. F. Knowlton (June 1): This cicada is very abundant at Provo, ovipositing in peach trees in one orchard. (Det. by W. L. McAtee)

THRIPS (Thysanoptera)

Colorado C. F. Gillette (June 14): Thrips are very abundant in Mesa County, blemishing peaches.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

York Weekly News Letter, N. Y. State Coll. Agr. (June): Although abundant in many orchards where spraying was neglected, this insect is not doing much damage as yet.

Illinois S. C. Chandler (June 14): The infestation by the pear psylla is very light in the Alma section, where severe injury occurred last season.

QUINCE

A LACEBUG (Corythucha cydoniae Fitch)

o T. H. Parks (June 3): This species of lace bug was found quite abundant on the leaves of quince trees growing in a large commercial orchard in Ashtabula County. The manager has been compelled to fight these lace bugs for the past two years. No evidence of their presence was found on any other trees or in any other orchard in that county.

CHERRY

CHERRY FRUIT FLIES (Rhagoletis spp.)

New York Weekly News Letter, N. Y. State Coll. Agr. (June):
Early in the month adult flies (R. fausta O. S.) began
appearing throughout the State, reports having been
received from Erie County, and eastward and southward
to Ulster County. They were still emerging in considerable
numbers by the middle of the month in Wayne County. R.
cingulata Loew appeared about a week later than R. fausta
and was emerging in large numbers during the month in Ulster
County. This species has been reported from practically
all of the fruit counties.

Michigan R. H. Pettit (June 11): On June 8 R. fausta O. S. appeared
in our cages out of doors at two points in the State, - Gobles,
in Van Buren County, and Grand Rapids, in Kent County. These
two localities are the only ones known where the black-bodied
fly is known to be established in the State. The more common
banded fruit fly (R. cingulata Loew) has not yet appeared.

BLACK CHERRY APHID (Myzus cerasi Fab.)

New York Weekly News Letter, N. Y. State Coll. Agr. (June):
This insect is extremely scarce throughout the State this year.

Tennessee G. M. Bentley (June 13): Black cherry aphids are very
abundant in Knox County.

Utah G. F. Knowlton and M. J. Jones (June 19): The black
cherry aphid is very abundant in some northern Utah orchards
and absent from others. They are fairly abundant at Lake
View and Vineyard.

PLUM

APHIDS (Aphidae)

South Dakota H. C. Severin (June 18): We have had the worst outbreak of
aphids this year that has occurred in the past 22 years, by
the mealy plum louse (Hyalopterus arundinis Fab.), the rusty
brown plum louse (Hysteroneura setariae Thos.), and a host of
others.

Nebraska M. H. Swenk (June 19): Fruit aphids are very abundant.

Oklahoma C. E. Sanborn (June 5): Hysteroneura setariae Thos. is
moderately abundant.

RASPBERRY

RASPBERRY FRUIT WORM (Byturus unicolor Say)

New York Weekly News Letter, N. Y. State Coll. Agr. (June):
This insect is very abundant and doing considerable damage
in the western part of the State.

FULLER'S ROSE BEETLE (Pantomorus fulleri Horn)

California E. O. Essig (June 24): Fuller's rose beetle was abundant
and destructive to raspberries in a few patches at Mt. View
in May and June.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

Delaware L. A. Stearns (June 20): An unusually severe infestation
of the grape leafhopper is occurring throughout the State;
first-brood nymphs were in the first and second stages
June 16 and 17.

New York Weekly News Letter, N. Y. State Coll. Agr. (June):
This insect was very numerous in Chautauqua and Dutchess
Counties. In Chautauqua County driving rains materially
reduced the numbers.

GRAPE ROOT WORM (Fidia viticida Walsh)

Maryland E. N. Cory (June 20): The grape root worm is being reported
from many localities.

Missouri L. Haseman (June 23): The grape root worm is reported
in the southwest Missouri grape growing area; there seems
to be an outbreak. Specimens of the adult beetles were
received on June 18.

GRAPE PLUME MOTH (Oxyptilus periscelidactylus Fitch)

New York Weekly News Letter, N. Y. State Coll. Agr. (June):
Larvae are causing considerable injury to grape plantings
in Niagara County.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

Delaware L. A. Stearns (June 20): First-brood larvae were active
June 16 at Dover.

CURRENT AND GOOSEBERRY

IMPORTED CURRENT WORM (Pteronidea ribesii Scop.)

Nebraska

M. H. Swenk (June 13): Defoliation of current and gooseberry bushes continued until early in June, having started about April 25.

CURRENT APHID (Myzus ribis L.)

Utah

G. F. Knowlton and M. J. Janes (June 19): The current aphid is causing damage throughout northern Utah, wherever red currents are being raised.

PECAN

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Florida

J. R. Watson (June 20): The pecan nut case bearers are more numerous and destructive this year than usual. They are going to reduce seriously what promised to be a fairly good crop of pecans.

Louisiana

W.E. Hinds (June 24): Pecan nut case bearers have been abundant and caused much shedding of young nuts.

Alabama

J. M. Robinson (June 20): The pecan nut case bearer is moderately abundant at Hotham and Mobile.

FALL WEBWORM (Hyphantria cunea Dru.)

Florida

J. R. Watson (June 20): The fall webworm seems to be more abundant than usual in the northern part of the State, but unusually scarce in the central part.

Alabama

J. M. Robinson (June 20): The first generation of fall webworms is abundant at Auburn and Deer Park.

Mississippi

M. R. W. Harned (June 21): Fall webworms have attracted attention in pecan trees in various parts of the State since the latter part of May. The first specimens were received on May 27 from Satartia. The infestations as yet are not very heavy.

M. M. High (June 2): The fall webworm was observed for the first time this season on pecan at Landon and Gulfport on June 2. The larvae were small and apparently not more than two or three days old.

M. R. Smith (June 2): Moths have been out for at least several weeks. Larvae are beginning to work on persimmon, pecan, and other host plants.

PECAN CATOCALA (Catocala viduata Guen.)

Mississippi

R. W. Harned (June 21): Specimens of the pecan catocala were received on May 30 from Jackson. Slight injury had been noted on pecan trees.

APHIDS (Aphidae)

Mississippi

R. W. Harned and assistants (June): Three species of pecan aphids, Myzocallis fumipennellus Fitch, Monellia costalis Fitch, and M. carvella Fitch are reported as abundant on pecan in Stone County.

PECAN SPITTLE BUG (Clastoptera obtusa Say)

Mississippi

J. P. Kislanko (June 18): The spittle insect is very abundant in one pecan orchard west of Wiggins. Out of 575 nut clusters examined, 479 were infested. Many of the clusters that were counted as free had several insects on the buds just below the nut clusters. Injury to some nuts is very apparent.

ALMOND

LEAF-FOOTED BUG (Lentoglossus phyllopus L.)

Alabama

C. D. Lebert (June): The leaf-footed bug is quite numerous on almonds in a local residence. The pest was present in all stages and very numerous. All the fruit had dropped from the trees.

CITRUS

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida

J. R. Watson (June 20): The citrus whitefly is abundant; more so than for several years.

A LEAF BEETLE (Trirhabda brevicollis Lec.)

Mississippi

R. W. Harned (June 21): Specimens of Trirhabda brevicollis were collected from orange trees at Pass Christian on May 20 and sent to this office. Serious injury was reported at that time. On June 5 Inspector H. Gladney wrote as follows: "Almost every citrus tree we observed in Pass Christian was badly eaten, not only the foliage but in some cases the bark. Almost all the prickly ash trees observed were practically defoliated."

ORANGE TORTRIX (Tortrix citrana Fern.)

Florida

J. R. Watson (June 20): An unusual outbreak of the orange tortrix has occurred in certain groves in Polk County. In one grove a careful check of the extent of damage indicated that they had destroyed 4 per cent of the crop.

MITES (Acarina)

Florida

J. R. Watson (June 20): The purple mite (Paratetranychus citri McG.) and the six-spotted mite (Tetranychus sexmaculatus Riley) has been numerous, but with the advent of heavy rains it is diminishing in numbers.

CITRUS APHID (Aphis spiraecola Patch)

Florida

J. R. Watson (June 20): The green citrus aphid, which became very scarce during the latter part of May, has again increased in numbers and is doing considerable damage to young growth on tangerines in the citrus district of the State and on Satsuma oranges in Alachua County.

COTTONY-CUSHION SCALE (Icerya purchasi Maskell)

Arizona

C. D. Lebert (June): The cottony cushion scale is becoming quite abundant in the vicinity of Phoenix and it is rapidly going over to citrus from ornamentals. Pittosporum plants at several residences have been killed. The scale has been found on roses, pittosporum, citrus, nandena, ornamental willows, and gladiolus. Lady beetles (Vedalia cardinalis Muls.) are being introduced at various points of infestation, and in several cases the beetles have apparently completely destroyed the scale. The scale has been found at Chandler, Mesa, Safford, Tucson, and in the vicinity around Phoenix.

TRUCK - CROP INSECTS

SEED CORN MAGGOT (*Hylemyia cilicrura* Rond.)

- York Weekly News Letter, N. Y. State Coll. Agr. (June): The seed corn maggot has very seriously damaged beans and cucurbits in Genesee, Monroe, Wayne, Ontario, Yates, Chautauqua, and Erie Counties.
- Virginia W. J. Schoene (June 11): The seed corn maggot has been reported injurious to beans and tomato plants in the vicinity of Richmond. These depredations extended over a number of weeks.
- North Carolina Z. F. Metcalf (June 20): The seed corn maggot is very abundant.
- Indiana J. J. Davis (June 20): The seed corn maggot was reported as damaging corn at Kokomo (May 23), in Jasper County (June 3), and at Rensselaer (June 4); soy beans at LaPorte (June 3); and lima beans at Franklin (June 2).
- Illinois W. P. Flint (June 16): Several reports of damage have been received from the northern third of the State.
- Michigan R. H. Pettit (June 20): The seed corn maggot is reported worse than ever.
- Minnesota A. G. Rugles (June 24): The seed corn maggot is moderately abundant. Complaints have been sent in from different localities.
- Wisconsin H. L. Jaques (June 26): The seed corn maggot is very abundant in Worth and Polo Alto Counties.
- Nebraska H. H. Swenk (June 13): A Boyd County correspondent reported injury to planted seed corn during the last week in May. During the following week similar reports of injury were received from Madison County.
- Ohio G. E. Knowlton (June 18): Injury was so severe this spring that many farmers had to plant squash and melon seed the third time.

VEGETABLE WEEVIL (*Listronotus obliquus* Gyll.)

- Florida Coast M. M. High (June 4): The vegetable weevil is now known to occur in 33 Mississippi counties, 40 Louisiana parishes, 19 Alabama counties, and 2 Florida counties. The dispersion of the weevil northward during the present season has not been so rapid as last year, but the weevil has continued to spread eastward and westward at about the same rate of spread as heretofore. Its flight northward may have been temporarily retarded by the severe cold of the past winter.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

Mississippi M. M. High (June 6): This flea beetle was very abundant on young turnip and cabbage the last half of May and first ten days in June. Some plantings were severely injured.

APHIDS (Aphidae)

Indiana J. J. Davis (June 20): Aphids were reported damaging turnip and lettuce at Vincennes, June 6. Specimens were not submitted.

Missouri L. Haseman (June 23): The past month has shown unusual outbreaks of plant lice on rhubarb, cabbage, beets and lima beans, as well as shrubbery and trees.

MOLE CRICKETS (Scatterisus spp.)

North Carolina C. H. Brannon (June 23): S. vicinus Scudd. has seriously damaged truck crops in New Hanover County and has infested dwellings, stores, and churches.

Alabama J. M. Robinson (June 20): The mole cricket is moderately abundant at Talladega.

Mississippi H. Dietrich (June 9): Mole crickets are injuring watermelon vines at Lucedale.

GARDEN SLUG (Agriolimax agrestis L.)

Wisconsin E. L. Chambers (June 24): Many reports are being received from various sections of the State to the effect that serious injury is being done by the garden slug. One grower reported a large plot of cabbages being attacked and the eyes eaten off as fast as they sprouted.

POTATO AND POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

New York Weekly News Letter, N. Y. State Coll. Agr. (June 9): Egg deposition by the Colorado potato beetle is especially abundant this year in Suffolk County. No young larvae have been observed as yet. Very abundant in Onondaga County.

Minnesota A. G. Ruggles and assistants (June): The Colorado potato beetle began hatching about the middle of the month and is reported as very abundant from Sibley, Carlton, and Hennepin Counties.

th Dakota

J. A. Munro (June 20): The Colorado potato beetles were observed ovipositing at Hillsboro on June 6. Eggs were observed on potato plants at Amenia on June 19. Present indications point to trouble later on.

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H. E. Jaques (June 26): The Colorado potato beetle is very abundant over the northern third of the State and moderately abundant over practically all the rest of the State.

thoma

C. F. Stiles (June 23): This insect is very abundant over the entire State.

issippi

R. W. Harned and assistants (June): The Colorado potato beetle is reported as very abundant in the southern part of the State and destructively prevalent in practically all sections, in some cases entirely defoliating the plants.

ana

W. B. Mabey (June 23): The overwintering adults are more than usually abundant. No young have hatched yet.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

sylvania

J. R. Stear (June 19): A heavy infestation was reported at the Koppers Experimental Farm, Ligonier. The 10-acre field of potatoes was considerably damaged.

POTATO LEAFHOPPER (Emoasca fabae Harr.)

ana

J. J. Davis (June 20): The potato leafhopper was damaging potatoes at Fowler June 17.

ucky

W. A. Price (June 24): The potato leafhopper is scarce. It is difficult to find enough for experimental purposes.

nesota

A. G. Ruggles and assistants (June): The potato leafhopper is reported as very abundant in Fillmore County.

H. E. Jaques (June 26): The potato leafhopper is reported as very abundant in Buena Vista, Pocahontas, Floyd, Chickasaw, and Jones Counties and as moderately abundant over other parts of the State.

POTATO APHID (Illinoia solanifolii Ashm.)

York

Weekly News Letter, N. Y. State Coll. Agr. (June 2): The potato aphid has already made its appearance in Suffolk County, two or three weeks ahead of normal.

POTATO PSYLLID (Paratrioxa conchellii Sulz.)

G. F. Knowlton (June 18): The tomato psyllid is occasionally present on potatoes in sufficient numbers to cause psyllid yellows.

Noticeable damage is occurring in one field at Farmington, where the first-generation adults are now emerging.

TOBACCO WORM (Protoparce quinquemaculata Haw.)

Mississippi K. L. Cockerham (April 22): The first specimen was found on the above date and since that time they have become numerous enough to necessitate hand picking on tomato plants in a garden at Biloxi. Many of the plants were being severely defoliated.

CABBAGE

CABBAGE MAGGOT (Hylemyia brassicae Bouche)

New York Weekly News Letter, N. Y. State Coll. Agr. (June): The cabbage maggot is doing considerable damage in central and western New York.

Ohio T. H. Parks (May 22): The cabbage maggot was unusually abundant in Southern Ohio this spring. Many growers lost a part of their planting.

Wisconsin E. L. Chambers (June 24): The cabbage maggot is again very serious on cabbage and radishes in many sections of the State where control measures are not being employed.

Montana W. B. Mabey (June 23): Cabbage maggots, although very abundant last season, are scarce in comparison this year.

Utah G. F. Knowlton (June 18): Cabbage worms have done moderate injury to cabbage at Cottonwood and Murray.

HARLEQUIN BUG (Murgantia histrionica Hahn)

North Carolina Z. P. Metcalf (June 20): The harlequin bug is very abundant.

Tennessee G. M. Bentley (June 13): The harlequin bug is scarce in Knox County.

Alabama J. M. Robinson (June 20): The harlequin bug is very abundant in Birmingham.

Mississippi R. W. Harned and assistants (June): The harlequin bug is doing considerable damage to cabbage in the south-central part of the State.

CABBAGE CURCULIO (Ceutorhynchus rapae Gyll.)

Indiana J. J. Davis (June 20): The cabbage curculio was reported as damaging 75 per cent of the cabbage plants in a commercial seed bed at Vincennes, May 24, according to F. H. Lathrop.

STRAWBERRYSTRAWBERRY LEAF ROLLER (Ancylis comtana Frohl.)

J. J. Davis (June 20): The strawberry leaf roller has been unusually abundant at Lafayette and Terre Haute the past month.

G. F. Knowlton (June 4): Strawberry leaf rollers are causing moderate injury to strawberries at Lake View, Pleasantview, and Provo.

STRAWBERRY ROOT WEEVIL (Prachyrhinus ovatus L.)

G. F. Knowlton (June 3): The strawberry root weevil is damaging occasional fields throughout the strawberry-growing area of northern Utah.

STRAWBERRY WEEVIL (Anthonomus signatus Say)

G. F. Knowlton (June 4): Live strawberry weevils have been found in strawberries brought to the market at Provo. The weevils are maturing earlier this year than a year ago.

EARLY STRAWBERRY SLUG (Emoria fragariae Rohw.)

M. H. Swenk (June 13): From May 21 to June 2 many complaints were received of injury to strawberries by the early strawberry slug. These complaints were chiefly from the northeastern part of the State, especially from Pierce County west to eastern Holt County and Wheeler County, where the plants were in many cases quite defoliated by the slugs.

ASPARAGUSASPARAGUS BEETLE (Crioceris asperasi L.)

L. A. Stearns (June 20): The asparagus beetles (C. asperasi L. and C. duodecimpunctata L.) were very abundant in fields about Bridgeville June 12.

C. A. Thomas (June 8): This asparagus beetle was exceptionally abundant in asparagus fields in the vicinity of Kennett Square, Chester County, during the first two weeks in May.

J. J. Davis (June 20): An asparagus beetle was reported abundant at Indianapolis May 31.

C. P. Gillette (June 27): The asparagus beetle is moderately abundant at Fort Collins, Denver, and Boulder.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Delaware

L. A. Stearns (June 20): The first adults were reported at Wilmington May 26. The beetle is/abundant throughout the State than in 1929. more

Pennsylvania

T. L. Guyton (June 27): The Mexican bean beetle is moderately abundant at Harrisburg.

Maryland

J. A. Hyslop (June 15): Adults are very numerous on string beans at Avenel, from 2 to 6 beetles on each plant.

E. N. Cory (June 20): The Mexican bean beetle is moderately abundant in general.

District of
Columbia

G. Myers (June 26): Adults are very numerous on snap beans at Chillum, near the Maryland State Line.

Virginia

W. J. Schoene (June 11): Very few reports of injury to beans by this insect have been received thus far this year.

North Carolina

Z. P. Metcalf (June 20): The Mexican bean beetle is very abundant.

Georgia

O. I. Snapp (June 7): Many complaints of damage to butter beans have been received at the Fort Valley laboratory during the past week.

C. H. Alden (June 20): The Mexican bean beetle is scarce at Cornelia; much less abundant than in 1929.

Indiana

J. J. Davis (June 20): The Mexican bean beetle was reported abundant at Plainfield (June 10) and Crawfordsville (June 17).

G. E. Marshall (June 19): The Mexican bean beetle made its appearance at Bedford June 17.

Kentucky

W. A. Price (June 24): This insect is generally very abundant over the State.

Tennessee

G. M. Bentley (June 13): The Mexican bean beetle is scarce in Knox County.

Mississippi

M. R. Smith (June 21): The Mexican bean beetle is generally distributed in the vicinity of Columbus.

R. W. Harned and assistants (June): The Mexican bean beetle normally abundant throughout the infested part of the State.

Colorado

C. P. Gillette (June 27): The Mexican bean beetle is moderately abundant along the eastern foothills and in Delta, Mesa, and Montrose Counties.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Missouri

P. H. Johnson (June 23): The bean leaf beetle is doing considerable damage to beans in Central Missouri.

Mississippi

R. W. Harned (June 21): A correspondent at Hazlehurst reported on June 5 that bean leaf beetles could be found in abundance in that vicinity and that they seemed to be causing considerable injury to the bean crop.

CLOVER LEAF BEETLE (Hypera punctata Fab.)

Arkansas

L. A. Stearns (June 20): The clover leaf beetle was reported injuring beans at Greenwood June 7.

SAY'S BLISTER BEETLE (Pomphopoea sayi Lec.)

York

Weekly News Letter, N. Y. State Coll. Agr. (June 23): Say's blister beetle has been causing severe damage to Italian beans in Erie County by eating the blossoms and small buds that have formed.

AN APHID (Geocica radiceicola Essig)

Mississippi

R. W. Harned (June 21): This aphid was reported on roots of beans from Charleston June 7.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Florida

J. R. Watson (June 20): The bean jassid is causing much damage to beans and cowpeas in the Everglades, especially on the east shore of Lake Okeechobee.

^{ED}
THREE-CORNER/ALFALFA HOPPER (Stictocephala festina Say)

Mississippi

R. W. Harned (June 21): On June 5 a correspondent at Union, sent to this office 1 adult and 34 nymphs that had been collected on bean plants in his garden. He wrote, "I have not before had any trouble with this insect, but have seen enough to convince me they are destructive."

PEAS

PEA APHID (Illinoia pisi Kalt.)

T. H. Parks (June 8): The pea aphid has been greatly reduced in numbers since May 27. Hippodamia convergens Guer. has

developed remarkably and is now present in large numbers. Aphidius sp. has also increased and many lice have been killed by it, though it has not been so instrumental as the ladybugs in putting down the outbreak.

Colorado

C. P. Gillette (June 14): This insect is moderately abundant in alfalfa fields in Weld County.

Utah

G. F. Knowlton (June 18): The pea aphid is less abundant than usual this spring.

Oregon

L. P. Rockwood (May 12): We swept pea aphids at the rate of 500 (approximately) per 50 sweeps in some fields. They were "spotted," being much thicker in some places in a field of Austrian field peas than in others. There was no perceptible injury.

CUCUMBERS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Florida

J. R. Watson (June 20): The striped cucumber beetle is very abundant in the Everglades. Not present in sandy soils of central Florida.

Ohio

T. H. Parks (June 23): The striped cucumber beetle is very bad in Mercer and Auglaize Counties, western Ohio. A pentatomid was observed to kill an adult beetle. This was sent to the office and identified as Mineus strigipes H.S. by Herbert Osborn.

Michigan

R. H. Pettit (June 20): The striped cucumber beetle is very abundant.

Iowa

H. E. Jaques (June 26): The striped cucumber beetle is reported as very abundant in Sioux, Pocahontas, Butler, and Carroll Counties and as moderately abundant in the rest of the State.

Nebraska

M. H. Swenk (June 13): The striped cucumber beetle began to be complained of as injuring cucumbers in southeastern Nebraska during the last week in May, and other such complaints were received during the remainder of the period from May 15 to June 15.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

Nebraska

M. H. Swenk (June 13): The squash bug was reported attacking squashes during the second week in June.

J. M. Robinson (June 20): The squash bug is very abundant in Opelika on tomatoes.

G. F. Knowlton (June 18): The squash bug is very abundant on squash at Bountiful and Salt Lake City. (June 3): The squash bug seems to be less abundant than usual in Weber County this spring. This insect has forced most farmers out of the squash business, in infested parts of northern Utah.

C. K. Fisher (June 9): A report came in today that 200 acres of cantaloupes at Modesto were heavily infested. The bugs were reported as doing considerable damage on May 7. I visited a field of squash which had been destroyed.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

T. H. Parks (June 9): This plant louse is now abundant on wild mustard in central and southern Ohio. It destroyed a planting of early turnips in Washington County during May. (June 20): A serious outbreak was reported from Fayette County late in June. These are now heavily parasitized with Aphidius sp.

ONIONS

ONION THRIPS (Thrips tabaci L.)

A correction - The note on page 180 of the June number of the Bulletin on Hylemyia antica Meig. by W. A. Thomas of North Carolina should have been Thrips tabaci L.

H. K. Riley (June 20): Onion thrips were observed June 19 doing considerable damage at Akron.

M. M. High (June 2): The onion thrips appeared in injurious numbers about three weeks before harvest this season. It was more abundant than it has been for several seasons, which was probably due to the light precipitation this season.

G. F. Knowlton and M. J. Janes (June 19): Injury is beginning to appear in Davis County.

ONION MAGGOT (Hylemyia antica Meig.)

Weekly News Letter, N. Y. State Coll. Agr. (June): The onion maggot has done much damage in Niagara and Clinton Counties.

J. J. Davis (June 20): The onion maggot was destructive at Roll, June 4.

H. K. Riley (June 20): On the whole injury has been light. Considerable injury was done in a few fields between June 1 and 20. There was a decrease in the number of injured plants about June 7, apparently due to a decrease in egg deposition during a cold, rainy spell about the middle of May.

Wisconsin

E. L. Chambers (June 24): Dozens of requests are being received for recommendations for control, and it appears to be unusually destructive over a large part of the southern half of the State.

Minnesota

L. L. Knotz (June 18): The onion maggot is bad in Carlton County.

North Dakota

J. A. Munro (June 20): A report received from Bartlett, Ramsey County, on June 9 indicated that the onion maggot was causing serious injury in that vicinity.

Montana

W. B. Mabey (June 23): Onion maggots have been more than usually abundant this season.

Utah

G. F. Knowlton (June 10): The onion maggot is more abundant than usual in Davis County, and is doing some damage in Box Elder and Weber Counties.

PEPPER

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

California

A. C. Davis (June 5): This species is rapidly working northward. It was taken at Vista in 1929 and at Capistrano June 4, 1930. Apparently it is not yet doing any damage in this locality.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Bak.)

Utah

G. F. Knowlton (June 2): The first generation is now partially completed in Tooele and Box Elder County breeding grounds. Nymphs of all sizes and new spring males and females are present as well as some overwintering females. A few beetles have been found showing curly top, in fields west of Garland and at Magna. (June 18): The beet leafhopper became abundant in the beet fields of northern Utah during the latter part of May and early June, a dispersal having occurred. Curly top is now appearing in some of the beet fields. (June 19): Beet leafhoppers were commonly taken in sweeping potatoes in the Ogden area. (June 26): Curly top is seriously affecting some tomato patches at Clearfield and Clinton, from two to five per cent of the plants being noticeably affected.

ifornia

E. O. Essig (June 24): The beet leafhopper is moderately abundant in the Delta region.

RHUBARB

RHUBARB CURCULIO (Lixus concavus Say)

o

E. W. Mendenhall (June 23): There is an outbreak in a garden at Worthington. The curculios are ruining the plantation of rhubarb.

SWEET POTATO

SWEET-POTATO WEEVIL (Cylas formicarius Fab.)

issippi

H. Dietrich (June 15): The sweet-potato weevil is found plentiful in seaside morning-glory at Isle of Caprice, Biloxi.

MINT

MINT FLEA BEETLE (Longitarsus menthanaphagus Gentner)

iana

J. J. Davis (June 24): The mint flea beetle was reported destructive to mint at Topeka and Cromwell, June 18.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

h Carolina

Z. P. Metcalf (June 20): The tobacco flea beetle is very abundant.

TOMATO WORM (Protoparce sexta Johan.)

h Carolina

J.N. Tenhet (June 13): The tobacco hornworm is more abundant than usual this year and is doing considerable damage to tobacco at Chadbourn.

TOBACCO THRIPS (Frankliniella fusca Hinds)

da

F. S. Chamberlin (June 20): The tobacco thrips are more abundant than normal. The tobacco crop in this region will sustain a certain amount of damage which can not be determined at this time.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

W. E. Hinds (June 24): The sugarcane borer is just beginning the second generation at about the middle of June. This species is unusually scarce in both corn and cane this season, and a year of exceptionally light infestation is anticipated. Trichogramma minutum Riley is not yet attacking the eggs.

F O R E S T A N D S H A D E - T R E E I N S E C T S

PERIODICAL CICADA (Tibicina septemdecim L.)

Middle

West

F. M. Wadley (June 17): Brood IV of the periodical cicada appeared this year in most woodlands throughout the eastern third of Kansas, in western Missouri, in some counties in southwestern Iowa, and in southeastern Nebraska, and in more localized areas in northeastern, central, and south-central Oklahoma, and in extreme northern Texas. Scattering emergence occurred in southern and eastern Kansas beginning May 10; emergence was general May 20-30; and the adults were still active, though diminishing in numbers, June 17. A few complaints of oviposition in orchards were received from northeastern Kansas, but on the whole very little injury occurred. Nearly all the cicadas were of the dwarf form cassini, though some of the larger typical form occurred in places.

SPRING CANKER WORM (Paleacrita vernata Peck)

Pennsylvania

T. L. Guyton (June 6): The presence of P. vernata was noted in Erie, Crawford, and Mercer Counties. The caterpillars were quite small at that time (May 27). (June 27): P. vernata is quite numerous on soft maple trees in the mountainous districts of southern Sullivan County.

Wisconsin

E. L. Chambers (June 24): P. vernata is defoliating fruit and shade trees this summer over a large area extending from Madison to Green Bay and many trees are being killed in this area because of repeated defoliation for the past ten years.

North Dakota

J. A. Munro (June 20): P. vernata has been very abundant over a large portion of the Red River Valley of the eastern part of the State and at Minot, Ward County. Observations indicated that upwards of 90 per cent of the worms were spring cankerworms and the remainder were mostly the lime tree spanworm, Erannis tiliaria Harr. Most of the trees attacked have already been defoliated. Of the various trees attacked oaks appeared to be the least palatable to the worms.

BAGWORM (Thyridonteryx ephemeriformis Haw.)

J. J. Davis (June 20): Bagworms were abundant on cedars and other evergreens at Aurora, June 6.

M. H. Swenk (June 13): In the middle of May an Otoe County correspondent reported that the bagworm was infesting his cedar windbreak and defoliating the trees.

M. Brunson (June 13): A bagworm is causing considerable injury to ornamental cedar in and around Picayune. Several people have been inquiring concerning control measures.

R. W. Harned (June 21): Bagworms were reported as very abundant on arborvitae plants at Laurel on May 30.

WHITE-MARKED TUSsock MoTH (Hemerocampa leucostigma S. & A.)

E. W. Mendenhall (June 20): Caterpillars are very numerous on maple, elm, and plane trees in some sections of Columbus and are attracting a good deal of attention.

FOREST TENT CATERPILLAR (Malacosoma disstria Hbn.)

W. O'Byrne (June 17): The forest tent caterpillar is very bad in Buckingham County, completely defoliating oak, hickory, cherry, and black gum but avoiding tulip poplar, soft maple, and dogwood, even though they are abundant in defoliated areas. The defoliated spots range in size from an acre to several hundred, and in several instances even as much as 1,000 acres. While the caterpillars were present last year, they were not nearly so abundant, and Buckingham County is practically the only section of the State from which they are reported.

A. G. Ruggles (June 23): A few reports from the northern part of the State indicate abundance.

GIPSY MoTH (Porthetria dispar L.)

H. B. Peirson (June 20): There is a very heavy infestation in southern Maine.

SATIN MoTH (Stilpnotia salicis L.)

H. B. Peirson (June 20): The satin moth is extremely numerous from Bangor south. Complete defoliation of poplar is occurring in many sections and partial defoliation of willow. Caterpillars are swarming over and into houses. People are using shovels, rakes, blow torches, quicklime, kerosene, tar, and sticky tree-banding material as the trees had been sprayed. One house was invaded and the family forced to move out.

Connecticut

R. B. Friend (June 23): The satin moth is very abundant on all poplars at Waterbury. Not before reported from this town. Larvae pupating June 18.

ORIENTAL MOTH (Cnidocampa flavescentis Walk.)

Massachusetts

J. V. Schaffner, Jr. (June 23): Collections of cocoons received during June add two towns, Medford and Watertown, to the known infested area. In both cases the cocoons were found on shade trees (Norway maple) in residential sections.

BROWN-TAIL MOTH (Nygmia phaeorrhoea Don)

Maine

H. B. Peirson (June 20): The brown-tail moth is locally abundant.

UGLY-NEST CATERPILLAR (Cacoecia cerasivorana Fitch)

Maine

H. B. Peirson (June 20): Extremely heavy infestations in Augusta and Cape Elizabeth. The road in one section is lined with great webs for nearly a quarter mile on cherry, ferns, milkweed, and general shrubs. At Cape Elizabeth it is reported on ~~elm~~, spruce, pine, cherry, and shrubbery of all sorts.

Massachusetts

J. V. Schaffner, Jr. (June 23): Several reports have been received that the ugly nest tortricid is abundant in many localities throughout the eastern part of the State. Where abundant they often web in several bushes of wild black cherry or choke cherry.

TWO-LINED CHESTNUT BORER (Agrilus bilineatus Weber)

Connecticut
and
New York

E. P. Felt (June 23): Adults appeared in numbers the week of June 16 at the Bartlett Tree Research Laboratories. The insect is generally present in southwestern Connecticut, and southeastern New York. The drought conditions late last year have presumably produced very favorable conditions for the development of this insect the present season.

TERRAPIN SCALE (Eulecanium nigrifasciatum Perg.)

Wisconsin

E. L. Chambers (June): Maple and oak trees in many sections of the State are infested with this scale and specimens have been sent in from Villas, Rock, Walworth, and Dunn Counties.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

Connecticut
and
New York

E. P. Felt (June 23): Spruce mite is common on Norway spruce and arborvitae, particularly the former, in southwestern Connecticut and southeastern New York.

ASH

ASH BORER (Podosesia fraxini* Lugges)

North Dakota

J. A. Munro (June 20): Mr. George Olson reports that the ash tree borer is causing serious injury to all the ash trees in the vicinity of Bowman. All trees are infested with this pest. As near as can be ascertained this report would practically hold true for all the ash plantings in the State. The ash tree borer, a species of carpenter moth, began to emerge in the vicinity of Fargo on June 6 and adults have been emerging fairly regularly since that time. Oviposition by the females was first observed to begin in the course of a week following emergence. Emergence took place during a short period about sunset. A trap lantern maintained in the vicinity of an ash planting did not result in capturing any of the moths.

BALSAM

AN APHID (Mindarus abietinus Koch)

Massachusetts

E. P. Felt (June 23): Specimens of balsam with the new growth very generally affected by this plant louse were received from Needham.

Mont

H. L. Bailey (June 6): Balsam fir heavily infested.

BIRCH

BIRCH LEAF MINING SAWFLY (Phyllotoma nemorata Fallén)

Ne

H. B. Peirson (June 20): The birch leaf-mining sawfly promises to be very abundant throughout the State.

BIRCH LEAF MINER (fenusa pumila Klug)

Connecticut

and

New York

E. P. Felt (June 23): The birch leaf miner is generally present in southwestern Connecticut and southeastern New York, though not nearly so abundant as a few years ago.

BOXELDER

BOXELDER APHID (Periphyllus regundinis Thos.)

North Dakota

H. C. Severin (June 18): We have had the worst outbreak of aphids this year that has occurred in the past 22 years. The boxelder suffered most, many of the trees being defoliated.

Nebraska

M. H. Sventk (June 13): The boxelder aphid continued abundant on boxelder trees in northeastern Nebraska and the eastern edge of the sandhills until well toward the middle of June.

C. N. Ainslie (June 6): Boxelder trees all over northeastern Nebraska are being seriously damaged and many of the trees will probably die from the attack. This tree is grown everywhere throughout this region but does not rank high in popular favor at present. This fact discounts the loss that may result from this infestation.

ELM

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Nebraska

M. H. Swenk (June 18): A severe infestation of elm trees with the common flat-headed wood borer was reported during the middle of May from a farm in eastern Sarpy County.

A LEAF BEETLE (Calligrapha scalaris Lec.)

Nebraska

M. H. Swenk (June 13): A leaf beetle was reported defoliating elms in southwestern Fillmore County and western Thayer County during the first week in June, these localities being just east of the area that was severely infested in June of 1929.

A WOOLLY APHID (Eriosoma spp.)

Connecticut

B. H. Walden (June 20): Many leaves curled in Litchfield and New Haven Counties. Rather more abundant as compared with the average year.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Georgia

O. I. Snapp (June 2): Infestation on exposed roots very heavy at Fort Valley.

WOOLLY ELM APHID (Schizoneura rileyi Thos.)

Pennsylvania

N. P. Felt (June 23): The woolly elm leaf aphid was reported as generally abundant on small trees at Washington.

ELM COCKSCOMB GALL (Colopha ulmicola Fitch)

Indiana

J. J. Davis (June 20): The elm cockscomb gall was reported abundant at Liberty June 17.

Illinois

W. P. Flint (June 16): Specimens are coming in very frequently from central and northern Illinois.

A CECIDOMYIID (Phytophaga ulmi Beut.)

Minnesota

A. G. Ruggles (June 23): Reported on elms in nursery at Newport, but not doing so much damage as in 1929.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

M. H. Swenk (June 13): The European elm scale was reported during the first week in June to be again damaging the elm and other trees in parts of the city of McCook, Redwillow County.

H. B. Hungerford (June 18): The European elm scale was found on Chinese elm at Wichita. It is thought that this is a new host record for this insect.

ELM SCURFY SCALE (Chionaspis americana Johns.)

J. J. Davis (June 24): The elm scurfy scale was reported abundant on young elms at Portland June 23.

HICKORY

HICKORY PHYLLOXERA (Phylloxera caryaecaulis Fitch)

E. P. Felt (May 26): The hickory leaf stem aphid is generally distributed at Stamford and very local, since a badly infested tree with half to three-fourths of the foliage and wood succumbing annually may stand within 40 feet of another hickory, apparently the same species, and free from the insect. Observations show that the winter eggs are laid in the old galls and in bark crevices and that the young Phylloxera enter the buds when they are about half developed, starting galls in the leaf stems before the bud scales have dropped. P. caryaecaulis is somewhat widely distributed in southwestern New York at least. Occasional serious infestations occurred at Nassau, Rensselaer County, N. Y., and this by no means represents the limits.

JUNIPER

JUNIPER SCALE (Diaspis carueli Targ.)

E. P. Felt (June 23): The juniper scale is generally present, sometimes abundant on individual trees or groups of trees in southwestern Connecticut and southeastern New York and badly infested material was recently received from Needham, Mass.

JUNIPER WEBWORM (Dichomeris marginellus Fab.)

E. P. Felt (June 23): The juniper webworm is somewhat common in southwestern Connecticut and southeastern New York, occasionally becoming serious upon groups of junipers.

LARCH

LARCH CASE BEARER (Coleophora laricella Hbn.)

Maine

H. B. Peirson (June 20): There is a heavy infestation from Augusta east to coast.

J. V. Schoffner, Jr. (June): Noted several areas of larch in Lincoln, Knox, Waldo, and Kennebec Counties, June 2-6, that were heavily infested. Many trees are being completely defoliated.

Vermont

H. L. Bailey (June 6-8): This insect has been rather plentiful in Vermont for several years. Indications are that the peak of period of abundance was reached two years ago. Moderate infestations have been noted this year wherever larch has been inspected.

Connecticut
and
New York

E. P. Felt (June 23): The larch case bearer is rather general prevalent on larches in southwestern Connecticut and southeastern New York.

MAPLE

MAPLE NEPTICULA (Nepticula sericopeza Zell.)

Connecticut
New Jersey
New York

E. P. Felt (June 23): Recent investigations show the Norway leaf stalk borer to be generally distributed in southwestern Connecticut, southeastern New York and presumably northern New Jersey, at least in areas where the Norway maple has been established for a number of years. The larvae occur very generally in the fallen keys, over 90 per cent frequently being infested. The keys show a characteristic dark area along the suture or union between the two seeds. The leaf stalk boring habit appears to be limited almost entirely to trees not in fruit and consequently is exceptional rather than normal. The insect is very probably well established in areas where the Norway maple occurs.

A BAGWORM (Solenobia wolshella Clem.)

New York

E. P. Felt (June 23): The small peculiar bags of the lichen-feeding bagworm were found rather commonly on the trunks of Norway maples at Scarsdale. It is not destructive and ordinarily escapes attention.

NORWAY MAPLE APHID (Periphyllus lyropictus Kess.)

Indiana

J. J. Davis (June 20): The Norway maple aphid is abundant at Flora, June 20, also at Danville June 20.

WOOLLY ALDER APHID (Prociphilus tessellatus Fitch)

Alabama J. M. Robinson (June 20): The alder blight aphid is moderately abundant on maple at Decatur, Burnsville, Hanceville, and Folkeville.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Ohio E. W. Mendenhall (June 10): Some outbreaks are found in Columbus and vicinity. No special damage reported.

Indiana J. J. Davis (June 20): The cottony maple scale is apparently as abundant as ever. Reports of abundance received as follows: Indianapolis, Pittsboro, Cicero, Lizton, Knightstown, Noblesville, Marion, Hartford City, and Flora, May 26-June 17. Eggs hatching at La Fayette, June 19.

Kentucky W. A. Price (June 24): The cottony maple scale is doing serious damage at Hartford.

Wisconsin E. L. Chambers (June 24): Maple trees in Jefferson, Walworth, Kenosha, and Rock Counties are heavily infested in places with the cottony maple scale which is usually not very prevalent in this State.

Minnesota C. O. Ayres (June 20): The cottony maple scale is very abundant in the wooded areas in Lake County.

Nebraska M. H. Swenk (June 13): The cottony maple scale was reported as infesting the trees at Hershey, Lincoln County, during the first week in June.

Virginia J. M. Robinson (June 20): The cottony maple scale is moderately abundant at Citronella, Roanoke and Birmingham.

OAK

FRUIT TREE LEAF ROLLER (Archips xyrospila Walk.)

Wisconsin E. L. Chambers (June 24): Practically the entire oak forests of Wisconsin have suffered injury from this pest, some large stands being more than 70 per cent defoliated. Most serious damage in Dunn, Portage, and Waupaca Counties where losses took place last summer.

GOLDEN OAK SCALE (Asterolecanium variolosum Retz.)

Kentucky W. A. Price (June 24): The pit making oak scale is abundant on oaks at Paducah.

Virginia J. M. Robinson (June 20): The pit making oak scale is moderately abundant at Lanett.

PINE

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

- Massachusetts J. V. Schaffner, Jr. (June 24): Received a collection June 24 with note stating that all the tops of pine on one-tenth of an acre are infested at Willamstown.
- Connecticut and New York E. P. Felt (June 23): There is a rather general and somewhat serious infestation at North Stamford and Greenwich, Conn., and also near Peekskill, N. Y., the mugho pine and Scotch pine suffering most.
- Michigan R. H. Pettit (June 20): Some caterpillars working on the leaders of Scotch pines received from Detroit have been identified by Mr. Carl Heinrich as R. buoliana Schiff. This is the first record of this pest in Michigan.

NANTUCKET PINE MOTH (Rhyacionia frustrana Comst.)

- Mississippi R. W. Harned (June 21): Serious injury to Japanese pine plants at Ocean Springs by larvae of R. frustrana was reported on May 23 by Inspector H. Gladney.

WOOLLY PINE APHID (Chermes pinifoliae Fitch)

- Connecticut and New York E. P. Felt (June 23): The woolly pine aphid was somewhat abundant upon a new planting of Scotch pines at Stamford, Conn. and also at Mount Kisco, N. Y., in the latter locality it being rather definitely associated with earlier severe injury of trees planted some 15 years. This insect in both cases was noticeably more abundant upon Scotch pine than upon near-white pine and was practically absent from red pine.

PINE BARK APHID (Chermes pinicorticis Fitch)

- Ohio E. W. Mendenhall (May 31): There is quite an outbreak of pine bark louse in a white pine grove near Sugar Grove in Hocking County. (June 12): An outbreak of the pine bark louse was found infesting white pine trees at Painesville, Lake County.

SPIITLE INSECTS (Fulgoridae)

- Connecticut and New York E. P. Felt (June 23): Spittle insects, probably Aphrophora parallela Say, were extremely abundant on Scotch pine at North Stamford, Conn., and Mount Kisco, N. Y., 3 to 6 or even 10 masses of spittle being observed upon individual branchlets and the secretion being so copious that there was an almost continuous dropping from the more badly infested areas. The Scotch pine was especially subject to infestation, though, in some cases nearly as many were observed upon white pine.

Near-by red pine was not infested. There is probably a connection between serious infestation by this spittle insect and unthrifty pines.

E. W. Mendenhall (May 31): The pine clastoptera (Clastoptera pini Fitch) is found in abundance on pines near Sugar Grove in Hocking County. The froth-like spittle was in evidence on the pine trees.

SCOTCH PINE LECANIUM (Toumeyella numismaticum P. & McD.)

E. L. Chambers (June 23): Complaints have been received concerning the Scotch pine scale doing injury to Jack pine for first time in many years in Wisconsin. A survey was made and it was found to be doing serious injury to Jack pine and Scotch pine throughout the Jack pine growing area in the northern part of the State, principally in Dunn, Pierce, Washburn, and Adams Counties. Many pines are seriously injured and many have been killed outright.

SPRUCE

EASTERN SPRUCE BEETLE (Dendroctonus vicinaria Hook.)

H. B. Peirson (June 20): Heavy outbreak in northern Maine.

A LEAF MINER (Epinotia nanana Treitschke)

H. B. Peirson (June 20): There are severe outbreaks of the spruce webworm being reported along the coast and locally inland.

SPRUCE BUDWORM (Harmoloba fumiferana Clem.)

E. L. Chambers (June 24): Considerable injury to blue spruce, balsam, and Norway spruce is being reported throughout southern Wisconsin this summer and many specimens have been received.

A. G. Ruggles and assistants (June): The spruce budworm is reported from Hennepin and Lake Counties.

J. A. Munro (June 20): The spruce budworm is moderately abundant on spruce at Valley City and Fargo. It has been reported as causing serious injury to Black Hills spruce in the cemetery at Valley City. The pest has also been observed at Fargo.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

MULBERRY WHITEFLY (Tetraleurodes mori Quaint.)

Connecticut
and
New York

E. P. Felt (June 23): The mulberry whitefly occurs rather commonly in southwestern Connecticut on mountain laurel, Cornus and other shrubs, and this season is somewhat abundant. Last year the small white flies were very numerous in midsummer.

GREENHOUSE CENTIPEDE (Scutigera immaculata Newp.)

Pennsylvania

C. A. Thomas (June 8): The greenhouse centipede has again done considerable injury this season in certain greenhouses in southeastern Pennsylvania. The chief injury was to germinating sweet peas, small aster plants, etc.

CANNA

LARGER CANNA LEAF ROLLER (Calbodes ethlius Cram.)

Mississippi

R. W. Harned (June 21): Heavy infestations were reported on May 21 from Bay Springs and Osyka.

Louisiana

T. E. Holloway (June 12): The larger canna leaf roller is doing some damage to cannas in New Orleans. It seems to have completed one generation.

DEODAR WEEVIL (Pissodes deodarae Hopk.)

Mississippi

R. W. Harned (June 21): Many complaints have been received from all sections of the State during the past month in regard to injury caused by Pissodes deodarae to Cedrus deodara plants.

CREPE MYRTLE APHID (Myzocallis kahawaluokalani Kirk.)

Mississippi

R. W. Harned (June 21): This aphid was reported on crepe myrtle from Aberdeen, Meridian, and West Point, May 29.

J. P. Kislanko (June 20): Crepe myrtle in the vicinity of Wiggins is very heavily infested.

IRIS

IRIS BORER (Macronoctua onusta Grote)

Indiana

J. J. Davis (June 20): The iris borer was very destructive to iris plantings at Lafayette early in June.

Wisconsin

E. L. Chambers (June 24): The iris borer is again very prevalent in some iris plantings of the State; one large planting, refused certificate of nursery inspection several years ago, continued to show increased infestation amounting to more than 90 per cent.

LILIES

A NOCTUID (Xanthopastis timais Cram.)

Mississippi

R. W. Harned (June 21): Larvae that have been tentatively identified by J. M. Langston as Xanthopastis timais were reported as abundant on lily plants at Gloster, on June 12.

OLEANDER

OLEANDER APHID (Aphis nerii Fonsc.)

Mississippi

J. P. Kislanko (June 17): The oleander aphid is very abundant on oleanders in the city park of Biloxi. Parasites, also, are quite numerous.

ROSE

ROSE SAWFLY (Caliroa aethiops Fab.)

Indiana

J. J. Davis (June 20): Rose slugs were destructive to roses at Morgantown, Bremen and Lafayette during June.

Nebraska

M. H. Swenk (June 13): The rose slug has been more than usually injurious during the period from May 15 to June 15.

ROSE CURCULIO (Rhynchites bicolor Fab.)

Ohio

G. F. Knowlton (May 28): The rose snout beetle is damaging roses at Parvowan.

THRIPS (Thysanoptera)

Pennsylvania

C. A. Thomas (June 8): Twenty per cent of the roses in a large greenhouse were badly damaged by small green thrips which entered through the ventilators from an adjacent wheat field. They burrowed into the opening buds, distorting them so that they were unfit for market. This greenhouse is at London Grove, Chester County, Pa.

WILD IRIS

AN EUCOSMID (Argyroplaca hebesana Walk.)

Florida

S. W. Berger and G. B. Merrill (June 24): The caterpillars of this little moth were found heavily infesting the unripe seed pods of iris near Rochelle, Hatchet Creek and Cedar Keys during the third week in April and into June. In the laboratory the first moths emerged on May 19 and the last on June 17. (This is a wild or uncultivated species.)

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Missouri

L. Haseman (June 23): In spite of the dry spring, mosquitoes are beginning to attract attention through central Missouri.

Nebraska

M. H. Swenk (June 13): A Holt County correspondent reported late in May that the mosquitoes were so bad on his low pasture land as to make things almost unbearable for the cattle and horses on pasture.

Utah

G. F. Knowlton (June 2): Mosquitoes are now very abundant and troublesome in marshy areas of northern Utah, and causing annoyance in many towns.

CLOVER MITE (Bryobia praetiosa Koch)

Kentucky

W. A. Price (June 24): The clover mite is quite troublesome in several residences in Lexington.

A GNAT (Hippelates pusio Malloch)

Mississippi

H. Dietrich (June 6): This is the first notice of "eye flies" at Lucedale. These were identified last year by Dr. O. A. Johannsen as Hippelates pusio Malloch. "The fly has been going by the above name." O. A. J.

CATTLE

HORN FLY (Haematobia irritans L.)

Missouri

L. Haseman (June 23): Cattle are suffering from the heaviest outbreak of horn flies that central Missouri has ever experienced.

DOG

AMERICAN DOG TICK (Dermacentor variabilis Say)

Maryland

J. A. Hyslop (June 24): The common wood tick is so numerous at Anavel that dogs are carrying from 1 to 6 ticks per square inch of skin all over their bodies except on lower legs. This is the most severe infestation observed in the past ten years in this locality.

HOUSEHOLD AND STORED -

PRODUCT INSECTS

TERMITES (Reticulitermes spp. et al.)

Florida

J. R. Watson (June 20): Many inquiries are being received concerning the ravages of termites. We have no evidence that these insects are any more numerous than usual, but some commercial interests are pressing the subject, and attracting considerable attention.

Indiana

J. J. Davis (June 20): Termites reported destructive to buildings at Russellville, Lafayette, and Terre Haute.

Nebraska

M. H. Swenk (June 13): A Douglas County correspondent reported that a dwelling house in Omaha was found badly infested with the termite Reticulitermes tibialis Banks during the last week in May, and a Phelps County correspondent reported during the first week in June that these pests were seriously working on the roots of some of his trees.

Arizona

C. D. Lebert (June): A termite (probably Kalotermes hubbardi Banks) was found in large numbers tunneling the hardwood floors and foundation timbers of a home in Phoenix. The damage was considerable.

ANTS (Formicidae)

Connecticut

B. H. Walden (June): More reports of injury from ants in New Haven County.

Delaware

L. A. Stearns (June 20): Complaints of ants injuring lawns have been received throughout late May and early June from numerous localities.

Nebraska

M. H. Swenk (June 13): Complaints of injury by ants in lawns and gardens, that were so numerous from April 15 to May 15, ceased rather abruptly during the third week in May. A Cedar County correspondent reported about the middle of June that the large red ants (Formica rufa L.) were so numerous about his place that the small children could not play outside because the ants would be on and all over them as soon as they sat down.

Mississippi

M. R. Smith (June 21): Specimens of Solenopsis molesta Say have been received from Corinth, and S. globularia var mobilensis Smith from Ocean Springs, Iridomyrmex pruinosus var. analis Andre from Louisville, Taninoma sessile Say from Columbus, and Cremastogaster laeviuscula var. clara Mayr has been reported as doing considerable injury to dahlias in Columbus.

FIRE ANT (Solenopsis geminata Fab.)

Mississippi

M. R. Smith (June 21): Winged males and winged females of the fire ant are quite common in the vicinity of A. & M. College. The sexed forms are subject to attack by Plastophora spp. A lady living at Eupora informed us that the fire ants have eaten holes into a great deal of the clothing. Mr. R. P. Colmer found an imported form of fire ant, Solenopsis geminata var. rufa Fab. nesting in an old potato bank at Strikler Bros'. farm, 4 miles from Big Point. This is the second time that the species has been taken in this State.

FOUR-LINED ASH BORER (Eburia quadrigeminata Say)

Indiana

J. J. Davis (June 24): The cerambycid larva reported in the Survey Bulletin, June, page 193, as issuing from the seat of an old rocker chair has been determined by F. G. Craighead as Eburia quadrigeminata Say.

WHITE MARKED SPIDER BEETLE (Ptinus fur L.)

Wisconsin

E. L. Chambers (June 24): A very serious infestation of the white-marked spider beetle occurred in a mill in northern Wisconsin, necessitating fumigation. A carload of flour was believed to have been responsible for bringing in the infestation, which originated farther south.

TAN BARK BORER (Phymatodes variabilis L.)

Rhode Island

A. E. Stene (May 29): Specimens of a beetle, reported in large numbers in cellars in two places, come apparently from stored wood. Determined by W. S. Fisher.

POWDER-POST BEETLE (Lyctus sp.)

Indiana

J. J. Davis (June 20): Powder post beetles reported causing considerable loss to unfinished or rustic hickory furniture May 24.

FIRE BRAT (Thermobia domestica Pack.)

Nebraska

M. H. Srenk (June 13): Rather an unusual number of complaint of infestation of houses and apartments were received from various parts of the State during the period May 15 to June 15.

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THE INSECT PEST SURVEY BULLETIN

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INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR JULY, 1930

Reports of more or less serious grasshopper trouble have been received from practically the entire country from Connecticut to California, and southward to Texas. Serious outbreaks have occurred in northeastern Colorado and parts of Wyoming, Oklahoma, Nebraska, and South Dakota. Grasshoppers are damaging sugar beets in Utah and small grains in southern California.

Rather severe damage to alfalfa by the pale western cutworm is reported from the southern tier of counties in Nebraska and the black cutworm is doing considerable damage to corn and cotton in Mississippi.

One of the periodical outbreaks of the white-lined sphinx occurred this year in parts of Wyoming and Nevada. The enormous numbers of caterpillars attracted considerable attention, though but little damage was recorded.

White grubs are seriously abundant throughout southern Wisconsin and south-central Minnesota, westward into eastern Iowa, and Nebraska.

As is to be expected with the extremely dry weather prevailing over much of the country, damage by the red spider is occurring from Virginia southward to Alabama and Mississippi and westward to North Dakota and Nebraska.

The Hessian-fly situation in Ohio seems to be generally favorable except in Butler County in the southwestern part of the State, where the insect occurs in threatening numbers at the present time. The outbreak in southeastern Nebraska, although one of the most intense recorded for that State, did not result in very decided crop losses owing to extremely favorable growing conditions.

The green bug was quite generally prevalent during late June and early July in parts of Minnesota, the Dakotas, Nebraska, and Colorado.

The severest infestation of the fall armyworm in Florida since 1912 occurred during the latter part of June and in early July. Similar damage was recorded from parts of Georgia, Alabama, Louisiana, and the southern two-thirds of Mississippi.

More or less serious damage by the corn ear worm to sweet corn is being reported from practically the entire United States east of the Rocky Mountains. The stalk-borer is also quite generally prevalent over this same territory.

A recent intensive survey of southern Idaho, to determine the relative abundance of the alfalfa weevil, indicates that this insect is most numerous in the southeastern one-third of the State along the Snake River from Fremont County on the eastern border to Twin Falls County on the southern border of the State. The infestation is very light over the southwestern and south-central parts of the State. A detailed report of the survey is included in this number of the Bulletin.

The codling moths of the second brood were emerging in very threatening numbers during the first half of July in Ohio, Indiana, Illinois, and northern and central Missouri.

Apple leafhoppers were reported as unusually abundant throughout New England and the Middle Atlantic States westward to Missouri, Iowa, and Minnesota.

An outbreak of the Colorado potato beetle has been discovered in Canyon County, Idaho, a previously noninfested territory.

The potato leafhopper is appearing in rather large numbers throughout the potato-growing sections of Michigan, Wisconsin, Minnesota, and Iowa this summer, where damage is already being noticed.

The harlequin bug is unusually abundant this year in North Carolina, Alabama, and Mississippi.

The Mexican bean beetle is being quite generally reported throughout the entire infested territory, but the infestations in the northern part of its range do not seem to be so serious as they were last year.

More or less serious damage by the onion thrips is reported from New York, Virginia, Illinois, Iowa, and Utah.

The elm leaf beetle is appearing in outbreak numbers throughout New England and southeastern New York State. Severe outbreaks are also reported from points in Ohio and Kentucky.

The spruce budworm seems to be quite generally prevalent over a

large part of Michigan and Wisconsin, with serious outbreaks in parts of Wisconsin.

Very serious damage to Asparagus plumosus has been reported from the commercial ferneries in Palm Beach County, Florida, where a cicada (Diceroprocta viridifascia Walk.) is killing out the plantations, the nymphs feeding on the roots of this plant. Another cicada (Tibicen cinctifera Uhler) is emerging in large numbers in Phoenix, Ariz., and, though swarming in the citrus trees, has, so far, done no commercial damage.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR AUGUST, 1930

Cutworms have continued to cause serious damage to field and garden crops, particularly in the Prairie Provinces. The outbreak of the pale western cutworm is heavy and widespread in Saskatchewan, and general in Alberta, and the red-backed cutworm has occasioned much crop loss in southwestern Manitoba and southeastern Saskatchewan, and in Alberta.

Grasshoppers are a serious pest on the Chilcotin ranges, in British Columbia, but elsewhere in the Dominion no outstanding crop damage has been reported.

Extensive and heavy infestations of the Colorado potato beetle are noted from sections of the Maritimes, southern Ontario, and southern Saskatchewan.

The striped cucumber beetle has increased in abundance over 1929 in southern sections of New Brunswick and Ontario.

Cabbage and onion root maggots are reported to have shown a material increase in numbers over last year in southern Alberta and the Okanagan Valley, British Columbia.

The fruit-tree leaf-roller occurred in injurious numbers in orchard sections of Ontario, north of Lake Ontario.

The ugly-nest caterpillar is reported in abundance on choke-cherry in southern sections of New Brunswick and Manitoba.

The raspberry cane borer has increased markedly in southern Ontario and southern Quebec.

In the orchards of southern Quebec the apple curculio is proving to be the worst insect pest of the season.

The rose chafer occurred in destructive abundance in sections of southern Ontario.

The green apple aphid which was an important pest in fruit-growing sections of the Dominion in 1929, has been noted as troublesome only from the Okanagan Valley, British Columbia.

The outbreak of the black-headed budworm affecting balsam and spruce in southern Cape Breton Island, Nova Scotia, continues severe.

A serious outbreak of a tussock moth species, Hemerocampa pseudotsugata McD., on Douglas fir, developed in certain sections of British Columbia, and, in the same province, bark beetles are gradually killing off pure stands of lodgepole pine.

In Quebec, along the north shore of the St. Lawrence River, indications are that the hemlock looper outbreak will continue severe during the present season.

For the first time on record the satin moth has been found in eastern Canada, in the Maritime Provinces. Two local infestations were discovered, one on willow at Annapolis Royal, Nova Scotia, on June 25, and the other on poplar at Moncton, New Brunswick.

In districts near the Saskatchewan River, Saskatchewan, the attacks of black flies on livestock have been serious. At one locality, Naicam, the deaths of 50 head of livestock have been caused by these pests.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Kentucky W. A. Price (July 25): Grasshoppers are very abundant on corn and tobacco in the Bluegrass Region.
- Minnesota A. G. Ruggles and assistants (July): Grasshoppers are occurring in moderate abundance in the southwestern corner of the State.
- South Dakota H. C. Severin (July 18): Grasshoppers (Melanoplus differentialis Thos., M. bivittatus Say, M. atlanis Riley, and M. femur-rubrum DeG.) are very abundant over the entire State except the southeastern corner.
- Iowa C. J. Drake (July 23): Grasshoppers are moderately abundant to very abundant over the entire State, doing a considerable amount of damage; no outbreaks.
- Missouri K. C. Sullivan (July 1): Grasshoppers are general and becoming abundant.
- Nebraska M. H. Swenk (June 15-30): Grasshoppers (Melanoplus spp.) were reported abundant in the Platte Valley, from Kearney to North Platte, both in alfalfa and flower gardens, during the closing days of June. (July 1-15): M. differentialis Thos. continued to be reported as injurious in eastern Nebraska, especially in flower gardens, during the period July 1-15. (July 18): Grasshoppers are moderately abundant over the entire State.
- Oklahoma C. F. Stiles (July 19): It seems that the hoppers are increasing in southwestern Oklahoma.
- G. A. Bieberdorf (July 20): Grasshoppers are moderately abundant in southwestern Oklahoma.
- Montana W. B. Mabey (July 22): There is a rather severe outbreak of Camnula pellucida Scudd. in the Centennial Valley in Beaverhead County. Control operations are under way. Grasshoppers are abundant in Cascade and Petroleum Counties.
- Wyoming A. G. Stephens (July 2): Grasshoppers are reported on the upland of Johnson County. (July 10): On the upland in north-central Wyoming.
- Colorado C. P. Gillette (July 21): Grasshoppers are very abundant in northeastern Colorado, - worse than for many years.

- Utah G. F. Knowlton and M. J. Janes (June 28): Grasshoppers are very abundant, damaging sugar beets at Layton. (July 8): Grasshoppers are present in damaging numbers in the area west of Smithfield. (July 19): Grasshoppers are very abundant over most parts of northern Utah; often damaging farm crops.
- Arizona C. D. Lebert (July 25): Several species of grasshoppers are very abundant in the Salt River Valley, at Phoenix.
- California Monthly News Letter, Office of Los Angeles County, Agr. Comr., Vol. 12, No. 7 (July 15): Approximately \$2,000 worth of damage has been done by grasshoppers in the Ridge Route area in the vicinity of Bailey and Quail Lakes during June, according to the estimate of Geo. Murphy. He states that the damage was principally to late wheat and barley and almost all on one ranch. One grower sustained a loss of approximately \$1,500 and another was damaged to the extent of \$500. Approximately 10,000 acres were inspected.
- Montana MORMON CRICKET (Anabrus simplex Hald.)
- Montana W. B. Mabey (July 22): The Mormon cricket outbreak in Sanders County is completely under control.
- CUTWORMS (Noctuidae)
- Maine H. B. Peirson (July 22): Cutworms are very abundant in general.
- Iowa H. E. Jaques (July): Cutworms are moderately abundant throughout the State and very abundant in the western and southern parts of the State.
- Nebraska M. H. Swenk (June 15-30): During the third week in June numerous complaints were received of damage to the newly starting second cutting of alfalfa hay by the variegated cutworm (Lycophotia margaritosa Haw.). These reports came chiefly from the southern tier of counties, from Gage County on the east to Furnas County on the west, and north to Hall County. In a number of fields the damage was severe.
- Mississippi R. W. Harned (July 22): During the last week in June and the first week in July several complaints were received regarding injury to young corn and cotton by the greasy cutworm (Agrotis ypsilon Rott.). Specimens collected on corn were received from Holmes, Tallahatchie, Lincoln, and DeSoto Counties. Specimens collected on cotton were received from a correspondent at Belzoni, who reported that several hundred acres of cotton in that vicinity had to be replanted because of this insect.

Montana

W. B. Mabee (July 22): Porosagrotis orthogonia Morr. has done considerable damage in the central part of Montana, just how much will be very difficult to determine as the dry weather has ruined practically all of the crops in the area where this cutworm was abundant.

Oregon

L. P. Rockwood (July 3): Larvae (Prodenia praeifica Grote) average hardly one-half grown, so there will probably be appreciable injury to alfalfa at Central Point, Josephine County, within the next two or three weeks.

WHITE-LINED SPHINX (Celerio lineata Fab.)

Wyoming

A. G. Stephens (Telegram) (July 3): Outbreak of armyworm near Douglas. Lives on burdock or any broad-leaf forage plant.

Nevada

T. E. Buckman (June 27): Specimens were secured near Yerington. Similar worms are reported from at least three other sections of the State and apparently they are moving in off the desert. These were reported to extend over an area 75 miles in length near Tonopah, and were reported to be very near our cultivated area. This year snowfall and late rains caused a great number of flowers to spring up throughout the State in the sagebrush country.

WIREWORMS (Elateridae)

Vermont

H. L. Bailey (July 5): Wireworms are very abundant in Shrewsbury, Rutland County, destroying potato seed pieces.

Wisconsin

E. L. Chambers (July 18): Reports are being received from various sections of southern Wisconsin to the effect that noticeable injury is taking place. Wireworms are also moderately abundant in truck gardens in the vicinity of Milwaukee.

Iowa

C. J. Drake (July 23): Wireworms are reported on corn by farmers in northeastern and southeastern Iowa, and are reported here and there as abundant.

Utah

G. F. Knowlton (July 8): Wireworms are seriously damaging the wetter part of one sugar-beet field at Smithfield. (July 11): Wireworms have taken 60 per cent of one field of late-lanted sugar-beets at Benson, in Cache County. Sixty-eight wireworms were taken within a radius of 6 inches on a beet in the ten-leaf stage.

WHITE GRUBS (Phyllophaga spp.)

Ohio

E. W. Mendenhall (July 10): The lantana planted in the field is badly affected with white grubs in some of the plantations at Springfield, Clark County. (July 24): The loss of spruce evergreen plants was 80 per cent, in one of the nurseries located at New Vienna.

- Indiana J. J. Davis (July 25): White grubs observed July 10 damaging strawberries at Hudson.
- Wisconsin E. L. Chambers (July 18): White grubs are very abundant and doing serious injury to corn, strawberries, and potatoes. Cornfields throughout southern Wisconsin are suffering seriously from white-grub attack and the lawns in many of our cities are being destroyed, as well as many golf courses. Dry hot weather apparently is making these losses much greater than usual.
- Minnesota A. G. Ruggles and assistants (July): Reports of moderate abundance have been received from scattered localities in south-central Minnesota.
- Iowa C. J. Drake (July 23): White grubs are moderately to very abundant in eastern Iowa. Brood A is doing much damage.
- Nebraska M. H. Swenk (July 1-15): White grubs continued to be reported doing damage in gardens during the period here covered. (June 15-30): Reports of damage in strawberry beds continued to be received during the month of June.
- Utah G. F. Knowlton (July 3): White grubs are damaging sugar-beets in some fields at Ogden and Axtell. (July 18): White grubs are damaging a few fields of sugar-beets in lower areas at Lake View and west of Provo.

PLAINS FALSE WIREWORM (Eleodes opaca Say)

- Texas F. L. Thomas (June-July): Wireworm adults (probably Eleodes opaca Say) were very abundant over the entire wheat area of the Texas panhandle in June.

ROSE CHAFER (Macrodactylus subspinosus Fab.)

- New York Weekly News Letter, N. Y. State Coll. Agr. (June 30): Rose chafers are numerous in a few grape vineyards in Dutchess County. They have caused considerable injury in a small section in Wayne County.
- Ohio E. W. Mendenhall (July 2): The rose chafer is quite bad on young nursery stock at Mt. Vernon, Knox County.

RED SPIDER (Tetranychus telarius L.)

- Virginia G. E. Gould (July 21): Red spiders have been quite abundant this year and are causing considerable damage to snap beans. Injury to evergreens has also been reported.
- Ohio E. W. Mendenhall (July 24): The extended drought has been favorable for the red spider, and it has become very injurious

to evergreens in nurseries in Clark County; arborvitae and other evergreens; and hollyhock have been infested.

Indiana J. J. Davis (July 25): The red spider was destructive to evergreens at New Albany June 22 and Elwood June 26 and to beans at Greencastle July 17.

Kentucky W. A. Price (July 25): The red spider continues to be a serious pest on the evergreens. It was also found doing much damage to grapevines at Hazard.

Wisconsin E. L. Chambers (July 18): One of the heaviest outbreaks in years has been experienced in Wisconsin this summer. While evergreens show the greatest injury, the nursery inspectors are finding heavy losses to many shade trees, shrubs, and perennials, owing to hot dry weather over a period of several weeks.

North Dakota J. A. Munro (July 17): A number of reports of the red spider have been received particularly from counties along the Red River Valley. Most of the injury is to raspberries.

Iowa C. J. Drake (July 22): The red spider has been unusually abundant and destructive to conifers in the State. Many trees have been badly discolored.

Alabama J. M. Robinson (July 23): The red spider is abundant at Marion and Tuscumbia.

Mississippi R. W. Harned (July 22): Reports regarding heavy infestations of the red spider on cotton and also on various ornamental plants have been received from many sections of the State, including Tishomingo, Alcorn, Lee, Calhoun, Tallahatchie, Hinds, Marshall, and Humphreys Counties.

C. Hines (July 20): The red spider is very abundant on arborvitae at Yazoo City.

Nebraska M. E. Swenk (June 15-30): About the usual number of complaints, beginning June 25, were received during the last few days in June relative to the infestation of spruce trees. These reports come chiefly from the eastern half of the State.

CEREAL AND FORAGE CROP INSECTS

WHEAT AND SMALL GRAIN

HESSIAN FLY (Phytophaga destructor Say)

Ohio T. H. Parks (July 15): Twenty counties were visited on the annual wheat insect survey. In only Butler County, southwestern

Ohio, was there ~~an~~ sufficient infestation of the fly to cause any serious loss to this year's crop. This is the county where the infestation centered last year. In the other counties the fly has increased slightly. The average for the twenty counties this year is between 6 and 7 per cent. The infestation is quite satisfactory excepting in Butler County and those counties which immediately surround that county. Following are the percentages of infestation found in the counties visited:

<u>County</u>	<u>Per cent</u> <u>Infestation</u>
Butler.....	34
Clark	1.5
Clermont.....	11
Columbiana.....	6
Delaware.....	4
Fulton.....	4.5
Hancock.....	1.6
Henry.....	3
Highland.....	13
Knox.....	8.5
Medina.....	3.6
Miami.....	10
Muskingum.....	7.5
Pickaway.....	2
Stark.....	4.4
Warren.....	10
Wayne.....	2.7

Michigan

R. H. Pettit (July 18): The Hessian fly is moderately abundant.

Wisconsin

E. L. Chambers (July 18): The Hessian fly seldom appears as doing any damage in Wisconsin but a field of winter wheat near New Holstein was found quite heavily infested with noticeable injury.

South Dakota

H. C. Severin (July 18): The Hessian fly is moderately abundant in Union and Clay Counties.

Iowa

C. J. Drake (July 23): The Hessian fly is very abundant along the Missouri River in western Iowa. A few hundred acres of wheat totally destroyed.

fly

H. E. Jaques (July): The Hessian/is moderately to very abundant in the southern half of the State.

Missouri

L. Haseman (July 26): In central Missouri the flax-seed stage in the stubble is very abundant.

Nebraska

M. H. Swenk (June 14-30): The last cycle of Hessian fly damage in Nebraska had been in the winter wheat crops of 1921-22 to 1925-26, reaching its crest in that of 1922-23, no commercial damage occurring in the winter wheat crops of 1926-27, 1927-28, or 1928-29. After the 1929 harvest, however, scattered and mostly light local infestations of the stubble with Hessian fly puparia were to be found, and a fall brood of some strength was found to be active during the month of September, presenting much more evidence of the presence of this pest than there had been during any of the preceding three autumns. During October, 1929, the fly was found to be present in 22 counties in southeastern Nebraska, and in several of them very threateningly. The infested area included solidly all of the counties south of the Platte River and west to Polk, York, Fillmore, and Thayer Counties, with an extension southwestward along the Platte that involved most of Merrick and Hall Counties, and parts of Hamilton, Adams, and Kearney Counties. In areas that involved central Cass and Otoe Counties, Nemaha County, western Richardson County, Pawnee County, central Gage, Jefferson, and Thayer Counties, southern Seward, eastern York, southern Polk, eastern Merrick, southwestern Hall, and southern Kearney Counties, there was an infestation of from 5 to 30 per cent of the wheat plants in the early-sown fields, and an infestation of from 60 to 80 per cent in the volunteer wheat. Outside of these areas the infestation ran less than 5 per cent in the early-sown wheat. Damage to early-sown fields began to show up about October 1, and numerous reports of injured fields were received during November.

Emergence of the spring brood of the Hessian fly started early in April, and reached its height about the middle of that month. The effects of the development of a heavy spring brood of larvae began to be evident in the early-sown fields about the middle of May, and were exceedingly apparent during the last 10 days in May. The area most heavily infested and injured included a block of counties centering around Lancaster County, and in this area there was considerable plowing up of badly injured or ruined wheat fields from May 20 to June 1. More accurately outlined, this area in which fields were plowed up during late May included Lancaster, Saunders, Cass, Otoe, Johnson, western Nemaha, northern Pawnee, Gage, northern Jefferson, extreme northeastern Thayer, Saline, extreme eastern Fillmore, Seward, and most of Butler Counties, with an isolated area in southern Merrick and western Hamilton Counties. In this area the general infestation ran from 75 to 100 per cent. An area of nearly equally general infestation, but in which the damage was not so heavy as to necessitate plowing up of fields, occurred in southern Jefferson, eastern Thayer, central Fillmore, southeastern Dodge, and southern Washington Counties. An area of infestation of from 50 to 75 per cent occurred in southern Polk, eastern Hamilton, and northern York Counties.

In eastern Nemaha, eastern Richardson, and western Thayer Counties the infestation ran from 25 to 50 per cent. Infestations of less than 25 per cent were found in Sarpy, Douglas, central Dodge, southern Colfax, southern Platte, and eastern Nance Counties, and, farther westward, in Phelps (a general infestation) and Redwillow Counties.

By May 26 about 75 per cent of the larvae had entered the puparium stage, and by June 10 adult flies of the supplementary spring brood were emerging over a large area. The intensity of this emergence varied greatly. In southern Saunders County, fields were found in which as high as 60 per cent of the spring-brood puparia had given up their flies by June 16. In Lancaster County north of Lincoln about 22 per cent of the spring-brood puparia were empty by June 18, while south of Lincoln about 20 per cent had emerged by that date. The late occurrence of the larvae of the supplementary spring brood and the early ripening of the wheat, however, prevented this brood from doing a great deal of damage to the crop.

Now (July 17) that all of the wheat in southeastern Nebraska has been cut, it is possible to report upon the general effect of the above infestation on the yield of grain in this section. Fields with an infestation of from 75 to 100 per cent, mostly early-sown fields, that were not badly enough injured to justify being plowed up during the last ten days in May, show a reduction of about one-third from the normal yield. General conditions for the growth of the wheat were so favorable, however, that this reduction of yield in the heavier infested fields is not obvious in the general average yield of all fields in the affected counties, which will be about $19\frac{1}{2}$ bushels to the acre, decidedly above the average yield for this section.

Washington

R. L. Webster (July 2): Infested wheat plants were sent in from Mossyrock in eastern Lewis County under date of June 21.

Oregon

Ore. Agr. Coll. Exp. Sta., Circular of Information No. 34: "Flaxseeds" of first generation were found April 25 about two weeks earlier than usual. Infestation of winter wheat and early spring-sown wheat by the first spring brood is heavier than normal in Washington and Yamhill Counties. Conditions appear favorable for a large and early second brood. (Max M. Recher)

WHEAT STEM MAGGOT (Meromyza americana Fitch)

Michigan

R. H. Pettit (July 9): The wheat stem maggot appeared at Mulliken recently.

Minnesota

M. A. Thorfinnson (July 24): Some wheat stem maggots are reported in winter wheat.

Nebraska

M. H. Swenk (June 15-30): The first report of trouble with the wheat-stem maggot for the season involved a case of 15 per cent damage in a field of rye in Webster County, reported on June 28.

WHEAT JOINT WORM (Harmolita tritici Fitch)

Ohio

T. H. Parks (July 15): This insect was found to be on the increase in all parts of the State. Some fields were found to have as high as 30 to 35 per cent infestation, but this did not cause lodging or any perceptible loss.

GREEN BUG (Toxoptera graminum Rond.)

Minnesota

L. Sheldon (July 9): The green bug is moderately abundant on grain in the northwestern part of the Lac qui Parle County.

North Dakota

J. A. Munro ((July 17): Of the various pests affecting cereal crops, the grain aphid has proven the most serious so far this season. Reports have been received from county agents and farmers from Ward, Stutsman, McLean, and Grand Forks Counties regarding serious local infestations. In a number of instances the reports indicate that grain fields had been totally destroyed and farmers were plowing under these fields. The larvae of the western syrphid (Syrphus spinator O. S.) and ladybird beetles were observed feeding on the aphids in samples of infested grain sent in to this office for identification. Apparently the natural enemies of the aphids began activities too late to prevent serious injury to crops this season.

South Dakota

H. C. Severin (July 18): The green bug did much damage to small grain.

Nebraska

M. H. Swenk (June 14-30): During the period from June 14 to 30, 1930, Nebraska experienced its first wide-spread and destructive outbreak. In the spring of 1907, when this pest was so destructive in Texas, Oklahoma, and Kansas, its parasites had gained control by the time it reached Nebraska, and no commercial damage was done in this State. In late October and November of 1910, 1920, and 1924, there were local and unimportant outbreaks on the winter wheat respectively in Polk, Dodge, Saunders, Butler, and Phelps Counties, while in June of 1920 and in 1928 there were scattered infestations respectively in the wheat and oats in Sarpy, Webster, and Harlan Counties and in the oats in Holt County. In neither of these springs, however, were there any important crop losses, as there were during the present outbreak.

The present outbreak began in south-central Nebraska, in

Kearney, Franklin, and Webster Counties, June 14 to 18. The infestation was in the wheat, oats, and corn. Corn-fields were badly infested where corn was next to infested wheat or oats or where it had been planted on wheat ground and there was volunteer wheat in the field. The wheat and oats were quite seriously injured, and in numerous instances the corn near wheat fields was entirely destroyed. By June 21, a week after the first reports of injury had been received (from Kearney County), the pest had spread west to Dundy and Lincoln Counties. Injury in Dundy and Lincoln Counties continued to be reported until July 1. In these more western counties injury to wheat and oats was very marked, and fields were reported as being destroyed. During the same period serious injury was found to have extended into Nuckolls County, and the pest was found as far east as Lancaster County, though in the latter county the infestation was relatively light in most of the fields, and, with a few exceptions, no commercial damage was done.

During the following week, June 22 to 28, the spread of injury continued westward and northward. The center of injury northward was in Pierce, Madison, Antelope, Holt, Wheeler and Greeley Counties. In this district it was the oats that suffered the most. The insects were present in many fields in tremendous abundance, and the farmers reported the fields destroyed in a large number of cases, between June 22 and July 1. The damage in Holt County was worst in the vicinity of Atkinson, O'Neill, and Chambers, chiefly in oats but some in barley, and reports indicated the killing out of a number of fields. In southern Wheeler County, around Ericson, the oat fields were, in general, badly infested and during the last few days in June the killed areas were reported as having spread greatly. In Greeley County the oat fields around Spalding and Greeley were reported as being very heavily infested June 27 to July 1, and undoubtedly hundreds of acres in this vicinity were badly injured or destroyed.

During the same week, June 22 to 28, the area of injury extended westward also. In Dundy County the damage, which was first reported on June 21, had extended by June 26, and fields of wheat, spelt, and corn were reported to be badly damaged or destroyed. June 26 and 27 oats, spelt, and corn were reported being destroyed around Imperial, Chase County. The bugs were reported as "very thick in the air" and "coming in clouds," and destroying fields within a few days. By June 28 oats and barley in Keith County, around Ogallala, was being badly injured, and on the same date oats in Morrill County, around Bridgeport, were found badly damaged. The coming of hotter and drier weather toward the end of June checked the spread and injury during the closing few days of the month, and the outbreak was on the wane over most of the infested areas by July 1.

In all of these infested fields the ladybird beetle Hippodamia convergens Guer. has developed an enormous abundance and is doing wonderful work in the natural control of the aphid.

M. H. Swenk (July 1-15): As stated in my special report, dated July 3, the Nebraska outbreak was on the wane over most of the infested areas by July 1. The last reports were sent in on July 7. These related mostly to infestation in oats, and to a less extent in spring wheat, spelt, and barley, in the block of counties including Madison, Antelope, Holt, Wheeler, Greeley, Valley, Garfield, Loup, Rock, and Brown. In the western area the last complaints were received from Lincoln County on July 1, from Scotts Bluff County on July 2, and from Keith County on July 7.

Colorado C. P. Gillette (July 21): The green bug is very abundant in eastern Colorado. From Cheyenne County north on late-sown grains. More serious than for many years.

ENGLISH GRAIN APHID (Macrosiphum granarium Kby.)

Colorado G. G. Schweis (July 16): Very abundant on fields of spring wheat in Lyon and Washoc Counties, apparently causing some dwarfing of heads. Ladybird beetles are very abundant and apparently will clean them up.

SMUT BEETLE (Phalacrus politus Melsh.)

Nebraska M. H. Swenk (June 15-30): The smut beetle (Phalacrus politus) was reported as abundant in fields of smutted wheat in Clay County during the last week in June.

CORN

FALL ARMYWORM (Laphygma frugiperda S. & A.)

North Carolina "The News & Observer" (July 7): County Agent N. M. Smith has discovered heavy infestation of the armyworm on more than 50 farms in Onslow County.

Florida J. R. Watson (July 18): The last days of June and the first days of July witnessed the heaviest infestation which Florida has experienced since 1912. The worms were troublesome in areas ranging from the Everglades to extreme western Florida, although not present in all communities between. They attacked mostly grasses. Damage was extensive to late-planted corn, cotton, and peanuts. By the 12th of the month they had pupated in central and southern Florida, and a few days later in western Florida. Moths began to emerge on July 19 and there are prospects for a second brood soon.

Georgia

O. I. Snapp (July 15): The fall armyworm has done considerable damage in several localities in Houston County. Infestations have been heavy in a number of southern Georgia counties.

T. O'Neill (July 4): The fall armyworm is reported by property owners as doing serious damage at Atlanta and Valdosta to golf courses and lawns, Bermuda grass, corn, and millet. This insect is also reported at Thomaston.

Alabama

J. M. Robinson (July 23): The fall armyworm is generally distributed over the State causing serious damage to corn, sorghum, sugarcane, soy beans, and various grasses. There is a general outbreak.

Louisiana

H. E. Hinds (July 26): The fall armyworm has occurred in damaging numbers in only a few localities. However, worms have been fairly common and full-grown larvae were crawling across walks in small numbers at Louisiana State University in the middle of July.

Mississippi

R. W. Harned and assistants (July): This insect is occurring in abundance over most of the southern two-thirds of the State. The following host plants are being attacked: Beans, corn, cotton, gladiolus, peas, sugarcane, soy beans, rutabagas, velvetbeans, and zinnias.

ARMYWORM (Cirphis unipuncta Haw.)

Nebraska

M. H. Swenk (June 15-30): On June 28 the true armyworm was reported destroying corn in Hall County and sweet clover in Nuckolls County.

Wyoming

A. G. Stephens (July 2): Armyworms are reported in the upland of Converse County.

CORN EAR WORM (Heliothis obsoleta Fab.)

Connecticut

W. E. Britton (July 24): This insect has been reported as attacking corn at New Haven, Derby, and Groton. Reports have come in earlier than usual.

Delaware

L. A. Stearns (July 23): Several inquiries received during the first week in July at Camden.

West Virginia

L. M. Peairs (July 23): The corn ear worm is unusually abundant in Morgantown and other places.

Ohio

T. H. Parks (July 15): The corn ear worm did some damage by burrowing into early tomatoes along the Ohio River. Each year this insect brings itself to the attention of the tomato growers, who harvest their crop early in this section.

- Indiana J. J. Davis (July 25): The corn ear worm is more abundant than in 1928 and 1929, when it was practically absent. June 28-July 11 this insect was reported feeding in the green tassels of corn at Nashville, Booneville, and Brooksville.
- Illinois W. P. Flint (July 17): The corn ear worm is causing rather heavy damage to early sweet corn throughout central Illinois.
- Kentucky W. A. Price (July 25): The corn ear worm is very abundant in the Bluegrass region.
- Minnesota A. G. Ruggles and assistants (July): The corn ear worm is moderately abundant at Brainerd, Crow Wing County, and in Blue Earth County.
- Iowa H. E. Jaques (July 25): The corn ear worm is moderately abundant in Plymouth, Winneshiek, and Jefferson Counties.
- Missouri L. Haseman (July 26): Sweet corn and early field corn are badly infested.

STALK BORER (Papaipema nebris nitela Guen.)

- Kentucky W. A. Price (July 25): The common stalk borer has done much damage in Kenton County and at other scattered points in the State.
- Wisconsin E. L. Chambers (July 18): Several patches of sweet corn and many gardens in the southern part of the State have been damaged.
- Nebraska M. H. Svenk (June 15-30): First reported this season from Richardson County on June 12. During the last four days in June numerous additional reports of stalk borers in corn were received, these including an area north and west from Richardson County to York County and Madison County. These reports indicated damage varying from the partial destruction of the outer row or two of the corn plants, to an amount approximating 10 per cent of all of the stalks in the field. (July 1-15): The stalk borer continued to be reported infesting corn during the two weeks here covered. These reports came from the region included within Burt, Butler, Holt, and Pierce Counties. Actual damage by this insect was apparently light, most of the reporters merely fearing possible additional damage.
- MISSISSIPPI LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)
- MISSISSIPPI R. W. Harned (July 22): A correspondent at Ethel, Attala County, sent to us on July 16 specimens with the report that these insects were injuring corn in that vicinity.

CHINCH BUG (Blissus leucopterus Say)

New York
and
Connecticut

E. P. Felt (July 26): There was a somewhat marked though probably local infestation by the chinch bug on lawns in Port Chester, and Greenwich, Conn., in the case of the former, areas of possibly a quarter of an acre being almost entirely destroyed.

Ohio

T. H. Parks (July 15): The chinch bug is almost entirely absent from our State in spite of the very dry spring and summer. None were observed by the entomologists on the wheat insect survey and no reports have been received of the insect injuring corn.

Illinois

W. P. Flint (July 17): Throughout much of the central and south-central parts of Illinois the rainfall has been very much less than normal, and the temperature has been quite high during the months of April and May and the first half of July. This has provided an ideal condition for the chinch bug and the small numbers of bugs present early in the season have produced a maximum number of offspring so that slight damage has occurred to corn adjoining wheat in Christian, Macon, Sangamon, Cass, Shelby, and a few adjoining south-central Illinois counties.

Iowa

H. E. Jaques (July): The chinch bug is reported absent except in Clay and Jackson Counties where it is scarce.

Missouri

L. Haseman (July 26): Several counties in central Missouri are badly overrun. The ^{bugs} are mostly winged and now in corn.

Oklahoma

C. F. Stiles (July 19): Chinch bugs are very abundant in the north-central and southwestern parts of the State. Considerable injury is being done to feed crops.

Mississippi

R. W. Harned (July 22): Three reports regarding infestation of corn have been received at this office during July. Medium injury to corn was reported from E. C. Harned, Lincoln County, on July 19. A slight infestation was reported from Drew, Safflower County, on July 5. A correspondent at Hernando, De Soto County, sent in the following report on July 14: "They have destroyed the corn and grass in this particular field."

CORN BILLBUGS (Sphenophorus spp.)

Missouri

K. C. Sullivan (July 1): Corn billbugs are serious in the lowlands in southeastern Missouri.

Nebraska

M. H. Swenk (June 15-30): Around the middle of June corn billbugs were reported quite bad in the southeastern part of Sarpy County. The species concerned were Sphenophorus aequalis Gyll. and S. melanocephalus Fab.

CLOVER, ALFALFA, COWPEAS

ALFALFA WEEVIL (*Phytonomus posticus* Gyll.)

Idaho

C. Wakeland (July 26): Between June 6 and July 11 a survey was carried on in all of the alfalfa-growing sections of southern Idaho with the following results:

Average number of larvae and adults per 100 sweeps of the net.

<u>County</u>		<u>County</u>	
Ada	26.0	Fremont	1090.0
Adams	0.6	Gem	6.7
Bingham	261.6	Gooding	50.1
Blaine	207.0	Jefferson	313.1
Boise	10.0	Jerome	2.0
Bannock	48.2	Lincoln	66.0
Butte	10.0	Madison	1418.4
Bear Lake	126.0	Minidoka	249.0
Camas	4.0	Oneida	35.0
Custer	0.2	Payette	39.7
Canyon	15.0	Power	74.0
Caribou	0.3	Teton	1.5
Cassia	400.0	Twin Falls	117.5
Clark	497.5	Valley	0.0
Elmore	2.2	Washington	1.3
Franklin	97.6		

Nevada

G. G. Schweiss (July 21): The alfalfa weevil very badly damaged the fruit crop in sections of Reno.

SAY'S BLISTER BEETLE (*Pomphopoea sayi* Lec.)

Vermont

H. L. Bailey (July 5): Say's blister beetle has been reported from Morrisville, Wells River, and North Calais. Adults clustering on locust and later on clover. No serious damage.

APHIDS (*Aphididae*)

Wah

G. F. Knowlton (June 27): Aphids are seriously holding back the growth of young alfalfa at Fillmore.

PEA APHID (*Illinoia pisi* Kalt.)

Illinois

J. H. Bigger (July 9): The pea aphid is abundant. Two 20-acre fields of red clover in Christian County severely damaged July 3 and one 20-acre field of red clover in Morgan County. Also 20 acres of cowpeas in Pike County showed typical injury, though aphids had been washed off by severe rains.

Nebraska

M. H. Swenk (June 15-30): In Furnas County some of the alfalfa fields were heavily infested.

BEAN APHID (Aphis rumicis L.)

Virginia

G. E. Gould (July 21): This aphid was exceedingly abundant on several species of dock this spring and later migrated to cowpeas, snap and lima beans, and nasturtiums. It was necessary to treat the cowpeas to prevent serious injury.

PEANUTS

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Florida

J. R. Watson (July 18): The velvetbean caterpillar has been inflicting much injury to peanuts in the Everglades.

GRASS

SHORT-TAILED CRICKET (Anurogryllus muticus DeG.)

Virginia

G. E. Gould (July 21): During April and May several complaints were received from Norfolk concerning an insect that was burrowing in lawns. However, no specimens were found until June when the same type of work was noticed in the lawns at the Virginia Truck Experiment Station. After much digging two specimens of a brown cricket were caught and were later identified by A. N. Caudell. The work of this insect is not serious, the chief complaint being the unsightly appearance of the lawn due to small piles of earth pushed out of the burrows.

F R U I T I N S E C T S

COTTON LEAF WORM (Alabama argillacea Hbn.)

Mississippi

R. T. Hained (July 30): (Telegram) Cotton worms probably quite generally distributed throughout Mississippi. Worms or definite reports received from Sunflower, Holmes, Oktibbea, Washington, Humphreys, Yazoo, Sharkey, and Issaquena Counties.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

Delaware

L. A. Stearns (July 23): The first adult of the first brood was reported at Camden July 2 and at Bridgeville July . The first eggs of the second brood were reported at Camden July 8, and the first larvae of the second brood were reported at Bridgeville July 12.

Ohio T. H. Parks. (July 15): The codling moth is increasing rapidly in Ohio. We expect a large second brood and spraying is now in progress to control it. Moths of this brood began emerging at Akron July 1, Columbus July 5, and Wooster July 11. No emergence of the second brood has occurred as yet at Oak Harbor, near Lake Erie.

Indiana J. J. Davis (July 25): Weather conditions have been ideal for the development of the codling moth and with continued favorable conditions we may anticipate a maximum development, possibly surpassing the peak reached in 1926.

Illinois J. H. Bigger (July): The codling moth is moderately abundant. Surveys indicate a moderate to heavy second brood.

Illinois W. P. Flint (July 17): The dry hot weather has been very favorable to the development of the codling moth and a rather heavy second brood is developing in central and northern Illinois. In southern Illinois the insect is less abundant at this time than in the central part of the State.

Illinois C. C. Compton (July): The codling moth is reported in Cook County, July 12. Second brood will spread over a much longer period than usual. First pupation at Des Plaines occurred July 12 while many larvae less than half grown are to be found in apples.

Missouri L. Haseman (July 26): In central and northern Missouri the peak of emergence of the second brood was reached July 19-24. Very abundant.

Missouri K. C. Sullivan (July 1): Adults of the second generation began to appear July 5-14; not so serious as last year.

Nebraska M. H. Swenk (June 15-30): The peak of emergence of the spring brood at Lincoln occurred May 31. The first eggs of the first brood were laid during the last week in May. The last spring-brood emergence in the outdoor insectary occurred on June 28. The first larvae of the first brood were found in the orchard on June 4 and the first larvae hatched in the insectary on June 10. The first pupa of the first brood was found June 27. The height of first-brood pupation is now close at hand.

Nebraska D. C. Mote (July 1): B. G. Thompson reports a good many are being found in traps at Monroe and Corvallis. Not so many eggs deposited as normally. Peak of first egg deposition of first generation not reached until June 30.

Nevada G. G. Schweiss (July 21): The codling moth is reported at Reno. Unsprayed fruit is 75 per cent wormy.

PISTOL CASE BEARER (Coleophora malivorella Riley)

West Virginia L. M. Peairs (July 23): The pistol case bearer is very abundant in Jefferson County. It has increased in several orchards.

EYE-SPOTTED BUDMOTH (Spilonota ocellana Schiff.)

New York Weekly News Letter, N. Y. State Coll. Agr. (July): Large numbers were reported as present in many orchards in Niagara County July 21.

APPLE REDBUG (Lygidea mendax Reut.)

New York Weekly News Letter, N. Y. State Coll. Agr. (July 7): Redbug injury is serious in many orchards; especially of Greenings, in Niagara County. (July 21): Redbug injury has damaged some of the fruit but is not excessive.

LEAFHOPPERS (Cicadellidae)

Massachusetts A. I. Bourne (July 24): Apple leafhoppers are moderately to very abundant. They are abundant in some orchards, especially in eastern Massachusetts.

Connecticut W. E. Britton (July 24): Apple leafhoppers are very abundant - unusually abundant.

Rhode Island A. E. Stene (July 18): Apple leafhoppers are moderately abundant.

New Jersey T. J. Headlee (July 7): Apple leafhoppers are moderately abundant.

Delaware L. A. Stearns (July 23): Erythroneura hartii Gill. is very abundant at Millsboro.

Michigan R. H. Pettit (July 18): Apple leafhoppers are moderately abundant.

Wisconsin E. L. Chambers (July 18): Apple leafhoppers are moderately abundant. Serious injury in nursery trees.

Minnesota E. G. Roth (July 15): Apple leafhoppers are moderately abundant in Brainerd, Crow Wing County.

Iowa C. J. Drake (July 23): Apple leafhoppers are moderately abundant over the entire State.

Missouri K. C. Sullivan (July 1): Apple leafhoppers are general and very abundant.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

New York Weekly News Letter, N. Y. State Coll. Agr. (July):
Apple maggot flies began to emerge in cages in Dutchess,
Ulster, and Columbia Counties the last week in June, and by
July 21 egg laying was heavy and the early varieties had
already begun to show the presence of maggots in Dutchess
County.

Ohio T. H. Parks (July 15): Adult flies were observed for the
first time on July 11 in northeastern Ohio. Serious damage
to some varieties occurred in several counties last year.

Iowa C. J. Drake (July 22): The apple maggot is emerging
at Ames. The first adults appeared about a week ago.

ROSE LEAF BEETLE (Nodonota puncticollis Say)

New York Weekly News Letter, N. Y. State Coll. Agr. (June 30):
The rose leaf beetle has been found in a number of orchards
in Orange County.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

Missouri K. C. Sullivan (July 1): The apple curculio is causing
considerable injury to apples in orchards on Missouri River
Hills.

PEACH

PEACH BORER (Aegeria exitiosa Say)

New Jersey T. J. Headlee (July 7): The peach borer is moderately
abundant.

Georgia O. I. Snapp (July 19): The first pupae of the year were
recorded today. Pupation during the past week has rapidly
increased. Many new cocoons are now being constructed
at the base of trees that are being observed every other day.

ORIENTAL FRUIT MOTH (Laspeyrosia molesta Busck)

Connecticut P. Garman (July 24): The oriental fruit moth is reported
slightly less abundant in New Haven and Hartford Counties
than in 1929.

W. E. Britton (July 24): The oriental fruit moth is
moderately abundant - plentiful.

New York Weekly News Letter, N. Y. State Coll. Agr. (July):
Second-brood larvae are working in the terminals in fruit

in the vicinities of Youngstown and Lewiston, but relatively few twigs are damaged in orchards in other parts of Niagara County.

New Jersey

T. J. Headlee (July 7): The oriental fruit moth is moderately abundant.

Delaware

L. A. Stearns (July 23): Twig injury by the oriental fruit moth's second brood is over and the third brood is just commencing to appear throughout the State.

West Virginia

L. M. Peairs (July 23): The oriental fruit moth is comparatively scarce in Morgantown.

Georgia

O. I. Snapp (July 21): The broods in the field are now overlapping. Fruit infestation is not more than 1 per cent. No commercial damage in peach orchards at Fort Valley.

Ohio

T. H. Parks (June 30): The oriental fruit moth is moderately abundant.

Illinois

W. P. Flint (July 17): There has been little change in the oriental fruit moth situation during the past month. A moderate increase has occurred in the number of twigs infested and a very few larvae are now entering apples in the southern part of the State.

J. H. Bigger (July): The oriental fruit moth is scarce. First record in Greene County, near Hillview, June 28.

Michigan

R. H. Pettit (July 18): The oriental fruit moth is moderately abundant locally.

Mississippi

R. W. Harned (July 22): Peach twigs that had evidently been injured by the larvae of the oriental fruit moth, Laspeyresia molesta, were received from Cruger on June 26 and from Bude on July 18.

J. Milton (July 19): This insect, although scarce, is found in many orchards in Alcorn, Prentiss, Tippah, and Tishomingo Counties.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Maine

H. B. Peirson (July 22): The plum curculio is very abundant in general.

Vermont

H. L. Bailey (July 5): The plum curculio is moderately abundant.

Connecticut

W. E. Britton (July 24): The plum curculio is moderately

- Rhode Island . . . A. E. Stene (July 18): The plum curculio is very abundant.
- New York . . . Weekly News Letter, N. Y. State Coll. Agr. (July):
Reports from Clinton and Niagara Counties indicate that
the plum curculio has been more injurious than usual.
- New Jersey . . . T. J. Headlee (July 7): The plum curculio is very abundant.
- Delaware . . . L. A. Stearns (July 23): Peach drops are badly infested
by the first-brood grubs of the plum curculio in southern
Delaware.
- West Virginia . . . L. M. Peders (July 23): The plum curculio is moderately
abundant, - more than usually so in Morgantown.
- Georgia . . . O. I. Snapp (July 19): The first egg of the second
generation was deposited on July 14, and deposition of second-
generation eggs is now (July 19) beginning to be heavy.
Hiley and Georgia Belle peaches have all been harvested,
and the peak of the Elberta harvest has been reached. As
predicted earlier in the season, all varieties ripening
before the Elberta have been harvested before the second-
brood attack, and it is believed that practically all of the
Elbertas will escape damage this year from a second brood
of curculio larvae.
- Florida . . . J. R. Watson (July 18): The plum curculio is very abundant.
About as usual.
- io . . . T. H. Parks (June 30): The plum curculio is very abundant.
- chigan . . . R. H. Pettit (July 18): The plum curculio is very abundant.
- nesota . . . A. G. Ruggles and assistants (July): Reports indicate that
this insect is moderately abundant in Kittson, Martin, and
Blue Earth Counties, and very abundant in Fillmore and Itasca
Counties.
- ssouri . . . L. Haseman (July 26): Many adults had emerged and were
mating by July 1; most all out July 8.
- . . . K. C. Sullivan (July 1): The plum curculio is causing
considerable injury to apples in orchards on Missouri River
hills.
- Alabama . . . J. M. Robinson (July 23): The plum curculio is moderately
abundant at Auburn.
- Texas . . . F. L. Thomas (July 17): The plum curculio was very abundant
in July in Limestone and Chambers Counties.

Mississippi

R. W. Harned and assistants (July): This insect has been reported from moderately to very abundant from scattered sections in the southern part of the State.

APRICOT

PEACH TWIG BORER (Anarsia lineatella Zell.)

Utah

G. F. Knowlton and M. J. Janes (July): The first generation of peach twig borers has infested about 5 per cent of the apricot crop at Ogden. Larvae are now becoming mature. Adult moths of the first-generation peach twig borers are now emerging from infested apricots.

PEAR

PEAR PSYLLA (Psylla pyricola Foerst.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (July): The pear psylla, though reported from most of the fruit-growing regions, has done little damage this year. During the last week in July it was reported in considerable numbers from Genesee County in unsprayed orchards.

PEAR LEAF BLISTER MITE (Eriophyes pyri Pgst.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (July): Pear leaf blister mite injury has become noticeable on some trees in Niagara County.

CHERRY

CHERRY FRUIT FLY (Rhagoletis cingulata Loew)

Oregon

D. C. Mote (July 1): S. C. Jones reports that cherry fruit flies began emerging June 13. They did not start coming out in large numbers until about June 25, and have been coming out in large numbers to the present time.

PEAR SLUG (Eriocampoides limacina Retz.)

Nebraska

M. H. Swenk (June 15-30): The pear slug was reported injuring cherry leaves in various parts of eastern Nebraska during the last half of June, and especially during the last week in that month.

A WOOD BORER (Prionus californicus Motsch.)

Utah

G. F. Knowlton (July 12): The larvae of Prionus californicus have been causing some injury to large cherry trees at Farmington, a number of roots being mined.

RASPBERRY AND CRANBERRY

RASPBERRY PRUNE WORM (Byturus unicolor Say)

New York

Weekly News Letter, N. Y. State Coll. Agr. (July 21):
The American raspberry beetle is also causing a small
amount of trouble to a few growers in Chautauqua County.

RASPBERRY CANE BORER (Oberca bimaculata Oliv.)

Maine

H. B. Peirson (July 22): Raspberry cane borers are very
generally abundant.

Vermont

H. L. Bailey (July 5): The raspberry cane borer has been /
as unusually abundant in various sections of the State. reported

CRANBERRY ROOT WORM (Rhaphdopterus picipes Oliv.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (July 21):
Work of the cranberry root worm on apples has been found to
a small extent in Wayne County.

SNOWY TREE CRICKET (Oecanthus niveus DeG.)

Mass.

G. F. Knowlton (June 30): Snowy tree crickets are causing
some damage to blackcap raspberries.

GRAPE

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (July 21):
The grape berry moth is reported to be causing some injury
in certain sections of a few vineyards in Chautauqua County.

Mississippi

R. W. Harned (July 22): Grapes injured by the larvae of
the grape berry moth were received from Natchez on July 5.

GRAPE LEAF FOLDER (Desmia funeralis Hbn.)

Mississippi

R. P. Colmer (July 19): Grape leaf folders are abundant
in the vicinity of Pascagoula on grapes.

GRAPE ROOT WORM (Fidia viticida Walsh)

New York

Weekly News Letter, N. Y. State Coll. Agr. (July 21):
Root worm beetles have started their egg laying underneath
the bark on the trunks of the grapevines. The first egg
mass was observed on Tuesday July 15 in Chautauqua County.

PERSIMMON

PERSIMMON PSYLLA (Trioza diospyri Ashm.)

Mississippi H. Dietrich (July 21): Psyllids are bad on Japanese persimmon in south George County. (Det. A. & M. College)

WALNUT

WALNUT HUSK FLY (Rhagoletis juglandis Cress))

California Monthly News Letter, Office of Los Angeles Co. Agr. Comr., Vol. 12, No. 7 (July 15): Adult walnut husk flies began emerging from infested orchards in the Pomona section July 14. These adults were not expected to come out of the ground until about the same time as last year, early in August. This insect was first noticed several years ago and was found to be causing considerable loss in the infested properties, mainly through reduction in the grades by staining the shells of the nuts.

A WALNUT APHID (Callipterus juglandis Frisch)

Oregon D. C. Mote (July 1): B. G. Thompson reports the aphid much later than normal and not so numerous as last year.

PECAN

FALL WEBWORM (Hyphantria cunea Drury)

North Carolina W. A. Thomas (July 10): The webs of this insect are much in evidence in nearly every pecan orchard in the southeastern section of the State. In some cases, rather severe defoliation has taken place. The larvae are about two-thirds grown.

Mississippi R. W. Harned and assistants (July): The fall webworm is moderately abundant in all parts of the State.

Louisiana H. E. Hinds (July 26): The fall webworm is becoming common on some of its wild host plants but less abundant than usual at this time.

PECAN NUT CASE BEARER (Acrobasis caryae Grote)

Florida J. R. Watson (July 18): The nut case bearer has reduced what was already a short crop of pecans.

Alabama J. M. Robinson (July 23): The pecan nut case bearer is abundant at Headland.

Mississippi R. P. Colmer (July 19): The nut case bearer is moderately abundant on pecan.

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

Mississippi

J. P. Kislanko (July 19): The pecan drop from the shuck worm this year so far is very light in the vicinity of Wiggins. The drop, however, is more noticeable on some isolated seedling trees.

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Mississippi

J. P. Kislanko (July 19): The walnut caterpillar is very scarce on pecans this year. So far only two colonies have been observed.

R. P. Colmer (July 19): The walnut caterpillar is scarce on pecan this year.

APHIDS (Aphididae)

Mississippi

J. P. Kislanko (July 19): The pecan aphids Myzocallis fumipennellus Fitch, Monellia costalis Fab., and Monellia caryae Monell are very scarce in the orchards that were heavily infested and trees defoliated last year, whereas those pecan orchards that had light infestations last year are heavily infested this year. The infestation of pecan aphids this year in general, in the vicinity of Wiggins, is lighter than it was last year at this time. Probably the low relative humidity and high temperature that prevailed for several weeks retarded their multiplication.

R. P. Colmer (July 19): The black aphid of pecan is moderately abundant in the vicinity of Big Point on Schley trees. Defoliation is just starting.

R. W. Harned (July 22): A slight infestation of Myzocallis fumipennellus Fitch was observed on pecan trees at Lexington on July 15.

PECAN SPITTLE BUG (Clastoptera obtusa Say)

Mississippi

R. P. Colmer (July 19): Spittle bugs are abundant on pecans in the southern part of the eastern half of Jackson County.

FIG

GREEN JUNE BEETLE (Cotinis nitida L.)

North Carolina

W.A. Thomas (July 19): Adult beetles are very abundant on repening figs, mutilating in some cases as much as 20 to 40 per cent of the fruit as fast as it ripens.

CITRUS

CITRUS APHID (Aphis spiraeicola Patch)

Florida

J. R. Watson (July 18): Fruit aphids are scarce. Infestation of Aphis spiraeicola is greatly lessened.

CITRUS MEALYBUG (Pseudococcus citri Risso)

Florida

J. R. Watson (July 18): Mealybugs have been very common on citrus, especially grapefruit.

California

Monthly News Letter, Office of Los Angeles Co. Agr. Comr., Vol. 12, No. 6 (June 15): There is less mealybug infestation in the citrus orchards of Los Angeles County this year than ever before since this insect became established as a major pest. Heavy and systematic Cryptolaemus liberations last year, plus field conditions particularly favorable to their work, and a rapid increase in the new internal parasites recently introduced by the University of California, were responsible for an exceptionally light carry-over of mealybugs during the past winter and the subsequent light infestation this spring.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida

J. R. Watson (July 18): The citrus whitefly is very abundant. Unusually abundant compared with recent years.

BLACK SCALE (Saissetia oleae Bern.)

California

Monthly News Letter, Office of Los Angeles Co. Agr. Comr., Vol. 12, No. 6 (June 15): A survey of the condition of the black scale in citrus groves in Los Angeles County shows this scale to be in the hatching period in all sections. Some localities are more advanced than others in this respect and in a few weeks complete hatches will occur on many properties.

CITRUS RUST MITE (Eriophyes oleivorus Ashm.)

Florida

J. R. Watson (July 18): The citrus rust mite is very abundant - unusually abundant for July. Following the abnormal rains of June, July has had a rainfall of somewhat below normal, which probably accounts for the heavy infestation.

TRUCK - CROP INSECTS

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

- Michigan R. H. Pettit (July 18): The seed corn maggot is very abundant on beans.
- Wisconsin E. L. Chambers (July 18): The seed corn maggot is scarce. Doing damage to a 5-acre field of lima beans and causing replanting.
- Iowa C. J. Drake (July 23): The seed corn maggot is moderately abundant on onions at Davenport.
- Nebraska M. H. Swenk (June 15-30): The seed corn maggot was reported attacking planted bean seeds to a serious extent in Scotts Bluff County during the last week in June.

BLISTER BEETLES (Meloidae)

- Georgia O. I. Snapp (July 24): About two acres of soy beans at Marshallville are rather heavily infested by Epicauta vittata Fab. The area is being sprayed in an effort to check the spread.
- Ohio E. W. Mendenhall (July 9): Macrobasis unicolor Kby. is quite bad on Clematis vines planted about homes in New Lebanon, Montgomery County.
- Indiana J. J. Davis (July 25): Blister beetle (Epicauta spp.) are apparently more abundant than for several years.
- Kentucky W. A. Price (July 25): Several requests have come recently for information on the control of blister beetles.
- Iowa H. E. Jaques (July 25): Blister beetles (E. vittata) are doing heavy destruction in Davis and Taylor Counties.
- Missouri L. Haseman (July 26): Along with the epidemic of grasshoppers there have also appeared during the month unusual swarms of blister beetles. Late potatoes, tomatoes, and other garden crops have been seriously damaged, particularly during the latter part of the month.
- Alaska M. H. Swenk (July 15-30): During the last few days in June E. maculata Say appeared in abundance in the vicinity of Scottsbluff, in some cases stripping the potato and tomato vines.
- Mississippi F. A. Smith (July 17): The blister beetles are very abundant on eggplant, cantaloupe, and tomatoes, in East Tate County.

POTATO

COLORADO POTATO BEETLE (Lentiniotarsa decemlineata Say)

- New York Weekly News Letter, N. Y. State Coll. Agr. (July 14): The Colorado potato beetle has been scarce in Onondaga County, but is now beginning to appear in large numbers.
- Indiana J. J. Davis (July 25): The Colorado potato beetle is more abundant this year than for a number of years. They were especially noticeable on potato and eggplant at Monterey, Bedford, and Lafayette July 3-16.
- Illinois C. C. Compton (July): The Colorado potato beetle is scarce in Cook County. Heavy oviposition fore part of July. Eggs destroyed by parasites and predators.
- Wisconsin E. L. Chambers (July 18): The Colorado potato beetle is very abundant in Portage County.
- Iowa H. E. Jaques (July): The Colorado potato beetle is moderately to very abundant in the southwestern two-thirds of the state and in Chickasaw, Fayette and Delaware Counties in the north-eastern corner.
- Nebraska A. M. H. Went (June 15-30): The Colorado potato beetle was first reported on June 21, from Furnas County, and is moderately abundant over the entire State.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

- New York Weekly News Letter, N. Y. State Coll. Agr. (July): Damage by the potato flea beetle has been reported from Ontario, Wyoming, Onondaga, Orleans, and Genesee Counties.
- Ohio E. W. Mendenhall (June 28): The potato flea beetles are very bad on potato leaves, leaving them full of shot holes, in Muskingum County. They are troublesome every year but seem worse in some sections.

POTATO WORM (Protoparce sexta Johan.)

- Nevada G. G. Schreiss (July 17): About 65 acres of potatoes in Iowa County are showing a large amount of damage, while about 10 acres are stripped.
- Utah G. F. Knowlton (June 27): Tomato worms are causing damage to tomatoes at Vineyard and Geneva.

POTATO STALK BORER (Trichobaris trinotata Say)

- Tennessee A. C. Morgan (July 26): The potato stalk borer, Trichobaris trinotata Say, is seemingly wide-spread, but the infestation is not severe.

POTATO LEAFHOPPER. (Empoasca fabae Harr.)

ermont

H. L. Bailey (July 5): Potato leafhoppers are moderately abundant generally about the State.

ew York

Weekly News Letter, N. Y. State Coll. Agr. (July 21): Considerable injury was noted in Oswego County.

ew Jersey

T. J. Headlee (July 7): The potato leafhopper is moderately abundant.

ichigan

R. H. Pettit (July 18): The potato leafhopper is very abundant in Missaukee and Wexford Counties.

sconsin

E. L. Chambers (July 18): Potato leafhoppers are appearing in large numbers throughout the potato-growing sections of the State and marked injury is already being noticed; also attacking dahlia and apple.

nesota

A. G. Ruggles and assistants (July): This insect is being reported in moderate abundance with an occasional report of very great abundance.

uth Dakota

H. C. Severin (July 18): The potato leafhopper is moderately abundant, as usual.

wa

C. J. Drake (July 23): The potato leafhopper is unusually abundant in Iowa this year. Unsprayed fields have been seriously injured.

H. E. Jaques (July): The potato leafhopper is moderately to very abundant over the southwestern two-thirds of the state and in the northeastern corner, in Chickasaw, Fayette, and Delaware Counties.

Missouri

K. C. Sullivan (July 1): The potato leafhopper is moderately abundant.

FALSE CHINCH BUG (Nysius ericae Schill.)

ah

G. F. Knowlton (July 12): The false chinch bugs are damaging potatoes at Minersville, and garden crops in general at Parowan.

A TREEHOPPER (Campylenchia curvata Fab.)

braska

M. H. Svenk (June 15-30): During the last week in June nymphs were found attacking potato vines in Cedar County, in northeastern Nebraska.

POTATO PSYLLID (Paratrioza cockerelli Sulc.)

ah

G. F. Knowlton (June 30): The tomato psyllid is very abundant

on potatoes in most parts of Davis County. Some fields are almost completely destroyed at the present time by psyllid yellows, while others run from 5 to 100 per cent diseased. The first generation is nearly completed, and adult psyllids are becoming very abundant.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

- Indiana J. J. Davis (July 25): The cabbage worm was abundant at Monterey, French Lick, and Lafayette July 3-17.
- Wisconsin E. L. Chambers (July 18): Serious losses of cabbage and cauliflower are being reported throughout the State this summer.
- Missouri L. Haseman (July 26): The imported cabbage worm was scarce until about July 15 and since then worms and adults were very abundant at Columbia.
- Nebraska M. H. Swenk (July 1-15): Beginning early in July the imported cabbage worm was frequently complained of as doing injury to cabbage in various parts of the State. (July 18): The imported cabbage worm is moderately abundant over the entire State.
- Utah G. F. Knowlton (July 16): Cabbage worms are seriously damaging some cabbage patches.

SOUTHERN CABBAGE WORM (Pieris protodice B. & L.)

- Texas F. L. Thomas (July 17): Very abundant on collards in a summer garden at College Station in July.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

- Washington W. W. Baker (July 17): Several reports have been received of rather heavy damage by this pest to cabbage fields near Kent. Cabbage, kale, and turnips are heavily infested at Grand Mound. One small patch of cabbage was dusted with barium fluosilicate and a good kill obtained.

CABBAGE APHID (Brevicoryne brassicae L.)

- Indiana J. J. Davis (July 25): The cabbage aphid is abundant at New Carlisle July 4.
- Wisconsin E. L. Chambers (July 18): Many requests for control are being received from LaCrosse, Outagamie, and Winnebago Counties.

North Dakota

H. C. Severin (July 18): The cabbage aphid was extremely abundant on crucifers of all kinds.

Nebraska

M. H. Swenk (June 15-30): There are numerous complaints of the cabbage aphid on cabbage in eastern Nebraska.

HARLEQUIN BUG (Murgantia histrionica Hahn)

North Carolina

W. A. Thomas (July 16): The harlequin cabbage bug is unusually abundant this season. Already collards are wilting badly in many gardens in this section as a result of the attack of thousands of these insects. One grower brought a pint of these insects to the laboratory, all collected from a small garden plot one afternoon. It was observed today that these insects were congregating on cowpeas in clusters about the fruit stems, apparently feeding on exuding juices. Some specimens seemed to be feeding on the young immature pods causing wilting. These peas were near a heavily infested collard plot.

Alabama

G. A. Bieberdorf (July 20): The harlequin bug is moderately abundant over most of the State.

Alabama

J. M. Robinson (July 23): The harlequin bug is very abundant, attacking peaches at Auburn and Alexander City.

Mississippi

R. W. Harned (July 22): Injury to collards was reported from Gowdey, Hinds County, on June 24.

M. L. Grimes (July 19): The harlequin bug is very abundant at Meridian.

STRAWBERRY

STRAWBERRY LEAF ROLLER (Ancylis comotana Frohl.)

Ohio

E. W. Mendenhall (July 9): The strawberry leaf roller is quite abundant in strawberry plantations at New Carlisle, Clark County.

Alabama

J. J. Davis (July 25): The strawberry leaf roller is reported abundant on grape at Greencastle June 26.

STRAWBERRY CROWN MOTH (Aegeria rutilans Hy. Edw.)

Oregon

D. C. Mote (July 1): The strawberry crown borers reported by J. Wilcox are now coming out. It appears that in most places in the Willamette Valley they will not be a serious factor this year owing to activity of the parasites.

ROOT WEEVILS (Curculionidae)

Oregon

D. C. Mote and J. Wilcox (July 1): Common strawberry root-weevils Brachyrhinus spp. do not appear to be as abundant in the Willamette Valley this season as last year. Damage by these weevils has decreased during the last two years owing apparently to effective baiting for their control. Native strawberry root-weevils Dyslobus spp. have assumed the stellar role in destructiveness. These weevils emerge early in the spring in March, lay eggs in April and May, and the resulting grubs feed upon the roots of strawberries until late summer, when they pupate and change to adults.

STRAWBERRY ROOT APHID (Aphis forbesi Weed)

Wisconsin

E. L. Chambers (July 18): An unusually large number of infested plantings of strawberries are being found by the nursery inspectors.

BEANSMEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Massachusetts

A. I. Bourne (July 24): The Mexican bean beetle has been found quite generally distributed in fields of beans in southern Hampden County (just above Connecticut line). Infestations at present consist almost entirely of small "islands" of comparatively small area. No serious defoliation as yet.

Connecticut

W. E. Britton (July 24): The Mexican bean beetle is moderately abundant, near Norwalk, New Canaan, Watertown and Granby, where found in 1929. Not yet generally distributed over the State.

R. B. Friend (July 24): Larvae were found the first part of July on beans in the same locality (Orange, New Haven County) that was infested last year.

New York

Weekly News Letter, N. Y. State Coll. Agr. (July 28): Mexican bean beetles can be found practically all over Orange County on wax, string, and lima beans though the infestation is not serious.

New Jersey

T. J. Headlee (July 7): The Mexican bean beetle is moderately abundant.

Delaware

L. A. Stearns (July 23): More inquiries concerning the Mexican bean beetle have been received than concerning any other insect throughout the State.

Virginia

G. E. Gould (July 21): The Mexican bean beetle is not so serious near Norfolk as last year. Very little damage has been

reported so far. First-brood beetles have practically reached the peak of egg production at this time. Dry weather, thrips, and the red spider are doing more injury at present than the bean beetle.

st Virginia L. M. Peairs (July 23): The Mexican bean beetle is very abundant in Morgantown and in general over the State.

rth Carolina W. A. Thomas (July 15): The Mexican bean beetle has been particularly injurious in the vicinity of Chadbourn this season, destroying most of the early snap beans by July 1. Limas were also heavily attacked at that time. At the present time few larvae are present on the plants, while adults are very abundant. Damage is not so serious as it was in early July.

io T. H. Parks (July 15): The bean beetle has been very scarce, presumably owing to the very hot, dry weather, but one complaint has been received and that from near Cincinnati. In most places growers report no damage.

E. W. Mendenhall (July 8): The Mexican bean beetle is quite severe in Springfield and vicinity. (June 30): It has put in its appearance in Muskingum County. They have been quite numerous in this section in other years.

diana J. J. Davis (July 25): The Mexican bean beetle was reported abundant at Bedford, Paoli, Sunman, Indianapolis, Plainfield, French Lick, and Princeton, June 25-July 3.

ennessee A. C. Morgan (July 26): The Mexican bean beetle was uniformly injurious throughout this region, although the infestation was not exceptionally severe.

ssissippi R. W. Harned (July 22): A correspondent at Falkner, Tippah County, reported that the larvae had caused severe injury to beans and butterbeans in that vicinity.

J. Milton (July 19): The Mexican bean beetle is moderately abundant in Alcorn, Prentiss, and Tishomingo Counties.

lorado C. P. Gillette (July 21): The Mexican bean beetle is moderately abundant, in regular areas. No new areas reported.

BEAN LEAF BEETLE (Cerotoma trifucata Forst.)

io E. W. Mendenhall (July 2): The bean leaf beetle is very abundant and doing considerable damage to beans in Mt. Vernon and vicinity.

A SCARABID (Strigoderma arboricola Fab.)

North Carolina C. H. Brannon in letter to W. H. White (July 23): This insect has caused considerable damage over the state and it appears to be especially bad in Caldwell County where it caused heavy damage to beans several years ago. The damage generally is probably more apparent than real but I noticed many fields of beans very heavily infested.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Indiana J. J. Davis (July 25): The spotted cucumber beetle was reported a serious pest of beans for canning at Greenfield, June 26.

BEAN LEAF ROLLER (Goniurus proteus L.)

New York Weekly News Letter, N. Y. State Coll. Agr. (July 21): In the bean fields where precautions have not been followed leaf rollers are quite prevalent.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Maryland G. E. Gould (July 21): Mr. L. W. Brannon reports leafhoppers as being injurious to beans in Maryland.

Virginia G. E. Gould (July 21): Leafhoppers are abundant on snap beans and are causing noticeable damage.

BEAN APHID (Aphis rumicis L.)

Nebraska M. H. Swenk (June 15-30): The bean aphid was repeatedly reported from various parts of the State during the period from June 20 to 25.

CUCURBITSSTRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Florida J. R. Watson (July 18): The striped cucumber beetle is very abundant in the Everglades.

Ohio T. H. Parks (June 30): The striped cucumber beetle is very abundant.

E. W. Mendenhall (July 1): The striped cucumber beetle are very troublesome in Knox County this year attacking cucumbers and melons.

Indiana J. J. Davis (July 25): The striped cucumber beetle was abundant and destructive at Bedford, Huntington, Warsaw, Sunman, Michigantown, Aurora, and Lafayette, June 26-July 19.

- Illinois C. C. Compton (July): The striped cucumber beetle is scarce in Cook County. No commercial damage was experienced this season.
- Michigan R. H. Pettit (July 18): The striped cucumber beetle is very abundant in Lower Michigan.
- Wisconsin E. L. Chambers (July 18): The striped cucumber beetle is moderately abundant. Cucumber growers in the southern part of the State report heavy losses.
- Minnesota A. G. Ruggles and assistants (July): Reports from the southern part of the State indicate that the striped cucumber beetle is occurring in normal numbers.
- South Dakota H. C. Severin (July 18): The striped cucumber beetle is moderately abundant as usual.
- Nebraska M. H. Swenk (June 15-30): The striped cucumber beetle was first reported from Lancaster County on June 18. Other reports were received during the remainder of June. (July 18): The striped cucumber beetle is moderately abundant over the entire State.
- Iowa H. E. Jacques (July 25): The striped cucumber beetle is appearing in moderate abundance in several places and has been reported as very abundant in Monroe, Jefferson, and Mahaska Counties.
- Oklahoma G. A. Bieberdorf (July 20): The striped cucumber beetle is moderately abundant over the eastern three-fourths of the State.
- WESTERN STRIPED CUCUMBER BEETLE (Diabrotica trivittata Mann.)
- California R. E. Campbell (July 22): Reports of heavy damage by the striped cucumber beetle to cucumbers have come to this office from several localities in Los Angeles County.
- MELON APHID (Aphis gossypii Glov.)
- Virginia G. E. Gould (July 21): The melon aphid has been found injurious in one cantaloupe field and is present in many cucumber fields.
- Indiana J. J. Davis (July 25): The melon aphid is destructive at Bedford and Huntington June 26.
- Nebraska M. H. Swenk (June 15-30): The first report of the melon aphid was received from Lancaster County on June 18. (July 1-15): Reports of injury ceased suddenly about the end of the first week in July, except for the melon aphid on melons and cucumbers, which continued to be reported in the usual numbers during the period here included.

PICKLE WORM (Diaphania nitidalis Stoll)

- North Carolina W. A. Thomas (July 3): These larvae have already begun entering the fruit of summer squash. This is nearly three weeks earlier than usual for this section. No injury to cantaloupes has yet been observed.
- Kentucky W. A. Price (July 25): The pickle worm is generally prevalent over the State but doing special damage at Conkling to squash and melons.
- Alabama J. M. Robinson (July 23): The cantaloupe worm is generally abundant at Graceville, Riverside, Wilsonville, Auburn, Newala, and Selma and throughout the State.

SQUASH BUG (Anasa tristis DeG.)

- Indiana J. J. Davis (July 25): The squash bug was causing dying of cucumber shoots at Indianapolis July 1.
- Illinois C. C. Compton (July): Squash bugs are reported in Cook County July 12, 1930. Very scarce this year for the third successive season.
- Utah G. F. Knowlton (July 16): Squash bug injury is noticeable in many squash-growing areas of northern Utah.
- California R. E. Campbell (July 22): Squash bugs are reported to be very abundant on squash in the San Fernando Valley (Los Angeles County) and serious damage is feared.

SQUASH BORER (Melittia satyriniformis Hbn.)

- Iowa C. J. Drake (July 22): The squash vine borer is fairly common in the State. Some of the squash vines in the vicinity of Ames have been badly injured by the borer.

ONIONS

ONION THRIPS (Thrips tabaci L.)

- New York Weekly News Letter, N. Y. State Coll. Agr. (June 30): Thrips are present to some extent in Genesee and Orleans Counties.
- Virginia G. E. Gould (July 21): Thrips have caused severe damage to cucumber, pea, onion and cabbage. Injury to cucumbers is more pronounced in fields that were dusted for the striped cucumber beetle and for downy mildew.
- Illinois C. C. Compton (July): The onion thrips is proving very destructive to roses and chrysanthemums in the Chicago district

Iowa H. E. Jaques (July 25): Wayne County reports the onion thrips doing damage.

Utah G. F. Knowlton (July 18): The onion thrips is unusually abundant and causing damage throughout the onion-growing sections of northern Utah.

ONION MAGGOT (Hylemyia antiqua Meig.)

New York Weekly News Letter, N. Y. State Coll. Agr. (June 30): Onion maggots have infested unsprayed plants heavily this season in Niagara County. The onion maggot injury is not so serious as in certain other years in Genesee and Orleans Counties.

Illinois C. C. Compton (July): For the first time in ten years the onion maggot has not caused commercial damage in Cook County.

North Dakota J. A. Munro (July 17): The onion maggots have caused serious injury to growers at Kramer, Bottineau County, and Bartlett, Ramsey County.

Utah G. F. Knowlton (July 16): The onion maggot is causing some injury to onions at Sandy.

CARROT

PARSLEY STALK WEEVIL (Listronotus latiusculus Boh.)

Iowa H. E. Jaques (July 25): Carrot weevils have been doing considerable damage to carrots in Henry County.

EGGPLANT

EGGPLANT LACEBUG (Gargaphia solani Heid.)

Mississippi R. W. Harned (July 22): Lacebugs identified by J. M. Langston were reported as causing serious injury to eggplant at Senatobia on June 30.

SWEETPOTATO

TORTOISE BEETLES (Cassidinae)

Mississippi R. W. Harned (July 22): Tortoise beetles, Chelymorpha cassida Fab., were reported as causing injury to sweetpotatoes at Ashland, and Houston, on July 18. Specimens of Metritona bivittata Say were collected on sweetpotato plants at Enterprise and Kewanee on July 14. Specimens of M. bicolor Fab. were collected from moon vines at Meridian on June 23. Medium injury in each case was reported.

SWEET-POTATO SAWFLY (Sterictiphora collaris Say)

Virginia

G. E. Gould (July 21): The larvae of the sweet-potato sawfly were found at Munden again this year, doing slight damage to a field of sweet potatoes. On this farm last year the damage of the first and second broods caused a reduction of about 50 per cent in yield. There appears to be only a light infestation this summer. The majority of the larvae of the first brood have already pupated. Many adult flies of its parasite (Schizocerophaga leiby Twn.) were seen in the field.

MINT

MINT FLEA BEETLE (Longitarsus menthaphagus Gentner)

Indiana

J. J. Davis (July 25): The mint flea beetle was reported on July 11 as destructive at Millersburg. Other reports for northern Indiana indicated similar damage to mint.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Baker)

Colorado

C. P. Gillette (July 21): E. tenellus has never been taken in northern Colorado, but in recent trip through beet fields occasional beet was found with typical curly-top leaves. When such a beet was found it was common to find two or three others near by.

Utah

G. F. Knowlton (July 19): The beet leafhopper is moderately to very abundant in Northern Utah. Causing slight to considerable damage to beets and tomatoes.

SUGAR BEET ROOT MAGGOT. (Tetanops aldrichi Hendel)

Utah

G. F. Knowlton (July 8): Maggots are causing some damage at Amalga.

BEET WEBWORM (Loxostege sticticalis L.)

Minnesota

A. W. Aamodt (July 19): Sugar-beet webworms are abundant in some fields in Polk County.

MUSHROOMS

A FUNGUS GNAT (Sciara sp.)

Missouri

O. E. Gahm (June 4): Larvae are doing commercial damage in the mushroom caves at Herman and in commercial mushroom houses at Leeds.

Colorado O. E. Gahm (June 6): Sciariid fly larvae are commercial damage to mushrooms in the houses at Denver.

Washington O. E. Gahm (June 21): Larvae are doing damage in commercial mushroom houses at Seattle.

California O. E. Gahm (June 10): Practically all of the mushroom houses were infested with fungus gnats, Sciara sp.

MUSHROOM MITE (Tyroglyphus lintneri Osb.)

Missouri O. E. Gahm (June 2): The mushroom mite, Tyroglyphus lintneri Osb., is doing commercial damage in the mushroom caves at Herman, Mo. (June 4): Mushroom mites are doing damage in commercial mushroom houses at Leeds.

California O. E. Gahm (June 10): Practically all of the mushroom houses were infested.

SPRINGTAILS (Collembola)

Minnesota O. E. Gahm (July 1): Heavy infestations of a springtail determined by Dr. Folsom as a species of Achorutes, were found in mushroom beds in the sandstone caves at St. Paul.

Missouri O. E. Gahm (June 4): Springtails of the genus Schottella, heretofore undescribed in this country, are causing commercial damage to mushrooms at Leeds.

TOBACCO

GREEN JUNE BEETLE (Cotinis nitida L.)

Tennessee A. C. Morgan (July 26): The grubworm was again injurious in the limited area to which it has seemingly been confined for several years.

HORN WORMS (Protoparce spp.)

Tennessee A. C. Morgan (July 26): The tobacco hornworms, Protoparce sexta Johan. and P. quinquemaculata Haw., were more than usually numerous in June, but since that time, owing to the protracted and severe drought, have been unusually scarce.

SOD WEBWORM (Crambus sp.)

Tennessee A. C. Morgan (July 26): Crambus sp. were moderately injurious in a few fields.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

W. E. Hinds (July 26): The second generation is scarce. Trichogramma minutum Riley in field.

F O R E S T A N D S H A D E - T R E E I N S E C T S

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio

E. W. Mendenhall (July 24): The bagworm menace is checked in Columbus and southwestern Ohio. Very little destruction is noted this summer, probably owing to parasite insects.

Indiana

J. J. Davis (July 25): Bagworm defoliating evergreens at New Albany June 22 and boxelder at Brookville July 15.

Mississippi

R. W. Harned (July 22): A correspondent at Meridian on July 12 reported a heavy infestation on cedar.

SATIN MOTH (Stilpnotia salicis L.)

Vermont

H. L. Bailey (July 26): Satin moth adult and egg mass found at White River Junction July 19. New location record for the state. Previously found only in towns from Springfield along Connecticut River to Massachusetts line.

Rhode Island

A. E. Stene (July 18): The satin moth has been less abundant this year than in any recent year. Little spraying was necessary and there was no defoliation.

GIPSY MOTH (Porthetria dispar L.)

Rhode Island

A. E. Stene (July 18): Gipsy moths have been less abundant this year than in any recent year.

FALL WEBWORM (Hyphantria cunea Drury)

New England

J. V. Schaffner, Jr. (July 25): Small webs of the fall webworm are now quite common through many sections of New England.

TWO-LINED CHESTNUT BORER (Agrilus bilineatus Web.)

New York

E. P. Felt (July 26): The two-lined chestnut borer is killing trees here and there in the metropolitan area of New York City, infestations being observed at Hartsdale and Pelham, N. Y., though similar work is doubtless common in many other localities.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Illinois C. C. Compton (July): Several severe infestations on ash have come to my attention in Cook County.

SPRUCE MITE (Paratetranychus uniungius Jacobi)

Connecticut W. E. Britton (July 24): This insect was reported at Beacon Falls and Old Lyme, attacking spruce and arborvitae.

ASH

ASH APHID (Prociphilus fraxinifolii Thos.)

tah G. F. Knowlton (July 3): Ornamental ash trees are having their leaves seriously curled.

BEECH

WOOLLY BEECH APHID (Prociphilus imbricator Fitch)

Connecticut and New York E. P. Felt (July 26): The beech-tree blight aphid has been reported so abundant at Hartford, Conn., and Scarsdale, N. Y., as literally to cover portions of the trunk and the larger branches of beech trees.

BIRCH

BRONZE BIRCH BORER (Agrilus anxius Gory)

Connecticut W. E. Britton (July 11): This borer on European white birch is reported in New Canaan.

BIRCH CASE BEARER (Coleophora salmani Hein.)

line H. B. Peirson (July 22): Almost complete defoliation of birch in stands on Mount Desert Island by the birch case bearer.

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fallen)

line H. B. Peirson (July 22): The birch leaf-mining sawfly promises to be very generally abundant.

BOXELDER

BOXELDER APHID (Periphyllus negundinis Thos.)

Minnesota R. C. Shaw (July 18): Aphids are moderately abundant at Penham. Some trouble on boxelder.

South Dakota

H. C. Severin (July 18): Boxelder aphids were extremely abundant.

Nebraska

M. H. Swenk (July 15-30): The boxelder aphid continued to be reported from central Nebraska up to June 25.

CAMPHOR

CAMPHOR THRIPS (Cryptothrips floridensis Watson)

Mississippi

F. P. Amsler (July 18): The camphor thrips is very abundant around Gulfport this month. Many trees have been killed.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schrank)

New Hampshire
and
Massachusetts

J. V. Schaffner Jr. (July 25): In many localities throughout the Eastern part of Massachusetts and in a section of Manchester, N. H., the elm trees show the effects of a severe infestation.

Connecticut

R. B. Friend (July 24): This insect is locally very abundant. It is causing injury to elm trees in Guilford, many being now brown.

Northeastern
U. S.

E. P. Felt (July 26): This insect has developed in considerable numbers from southern Westchester County, N. Y., and southwestern Connecticut, northward to Lenox, Mass., the infestations at Pleasantville, N. Y., Danbury and Windsor, Conn., and Lenox, Mass., being sufficiently severe to produce partial to almost complete defoliation, the effect being accentuated by the recent extremely hot, dry weather.

Ohio

E. W. Mendenhall (July 24): A very severe outbreak of the elm leaf beetle in London (Madison County).

Kentucky

W. A. Price (July 25): The elm leaf beetle is responsible for the defoliation of elms in Louisville and Lexington. It was also collected in a dwelling in Danville, on July 22.

Oregon

D. C. Mote (July 1): J. E. Davis reports that eggs of the elm leaf beetle have hatched in and around Corvallis, and larvae are numerous.

A LEAF BEETLE (Calligrapha scalaris Lec.)

Nebraska

M. H. Swenk (June 15-30): The leaf beetle continued its defoliation of elm trees up to the end of June. The greatest damage was done in southern Nuckolls County, but the infestation extended north through Clay and east into Fillmore and Thayer Counties.

-300-

A SCOLYTID BEETLE (Hylurgopinus rufipes Eich.)

New York

E. P. Felt (July 26): The dark elm bark borer, Hylurgopinus rufipes Eich., was found in large numbers in a dying elm at Pelham, the primary trouble probably being due to a deficient and variable water supply.

ELM BORER (Saperda tridentata Oliv.)

Nebraska

M. H. Swenk (June 15-30): Borers reported during the period here covered included the elm borer, beginning June 12.

WOOLLY ELM APHID (Eriosoma americanum Riley)

Indiana

J. J. Davis (July 25): The woolly elm aphid was reported June 30 as very abundant on elm at Anderson.

Nebraska

M. H. Swenk (June 15-30): Beginning June 12, and continuing to June 24, a great many reports of curled elm leaves were received. In some cases the attacks were severe. These reports came from all of the central parts of the State, from Pierce, Dodge, York, and Nuckolls Counties west to Cherry and Chase Counties.

ELM COCKSCOMB GALL (Colopha ulmicola Fitch)

New York

E. P. Felt (July 26): The cockscomb elm gall was somewhat abundant on elm foliage at Westbury, Long Island.

Indiana

J. J. Davis (July 25): The elm cockscomb gall was sent in from Orleans, Indianapolis, and Elwood.

Illinois

W. P. Flint (July 17): The cockscomb gall of elm has been very abundant throughout the northern two-thirds of Illinois. This aphid is present not only on street trees in towns and cities but is quite abundant in the woodlands.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Ohio

E. W. Mendenhall (July 24): The European elm scale is quite prevalent on the elms planted along the streets in London, Madison County. I find some of the elms at North Columbus badly infested.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Nebraska

M. H. Swenk (June 15-30): In Pierce County an infestation of the elm trees in the town of Plainview was reported on June 17.

A POCKET GALL (Eriophyes ulmi Garman)

Nebraska

M. H. Swenk (June 15-30): In Cherry County the elm trees were reported heavily infested with pocket galls formed by Eriophyes ulmi in the vicinity of Merriman, during the third week in June.

HACKBERRY

HACKBERRY NIPPLE GALL (Pachypsylla celtidis-mamma Riley)

Nebraska

M. H. Swenk (June 15-30): Hackberry foliage affected by the hackberry nipple gall was sent in from different localities during the period here covered.

A CERAMBYCID. (Urographis triangulifera Hald.)

Nebraska

M. H. Swenk (June 15-30): Borers reported during the period here covered include the hackberry borer (Urographis triangulifera) beginning June 14.

HACKBERRY BUTTERFLY (Chlorippe celtis Bd. & Lec.)

Nebraska

M. H. Swenk (July 1-15): A Douglas County correspondent reported his hackberry trees considerably injured by these caterpillars.

JUNIPER

AN APHID (Sanbornia juniperi Perg.)

Mississippi

J. P. Kislanko (July 19): One of the junipers at Wiggins was heavily infested with a juniper aphid (Sanbornia juniperi Pergande). At the time of observation no late forms were found. The apterous individuals were heavily parasitized.

LINDEN

LINDEN LEAF GALL (Eriophyes abnormis Garm.)

Nebraska

M. H. Swenk (June 15-30): In the town of St. Paul, Howard County, a number of linden trees have the leaves badly affected with the galls of the linden gall mite (Eriophyes abnormis).

LOCUST

LOCUST TWIG BORER (Ecdytolopha insitici~~ana~~ Zell.)

E. W. Mendenhall (July 16): The black locusts in nurseries at Springfield are badly infested with the locust twig borer.

MAPLE

FLAT-HEADED APPLE-TREE BORER (Chrysobothris femorata Oliv.)

J. J. Davis (July 25): What was supposed to be the flat-headed borer was destructive to maple at Martinsville, June 28.

SUGAR-MAPLE BORER (Glycobius speciosus Say)

E. W. Mendenhall (July 24): The sugar maple borers are very bad in the hard maples planted on the streets of London (Madison Co.). Many limbs and even the trees are dying from this destructive pest.

NORWAY MAPLE APHID (Periphyllus lyropictus Kess.)

J. J. Davis (July 25): The Norway maple aphid was abundant on Norway maple at Bedford and Orleans, June 25 and 26, respectively.

WOOLLY ALDER APHID (Prociphilus tessellatus Fitch)

E. P. Felt (July 26): The alder blight aphid was reported as seriously injuring soft maple foliage at Southfield, late in June.

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

J. J. Davis (July 25): Abundance of the cottony maple scale was reported from Warren, Fowler, Saratoga, and Morristown.

C. J. Drake (July 22): The cottony maple scale is very abundant in Iowa this year. Records have been received from the following places: Lake Park, Lakota, Thompson, Mason City, Hampton, Davenport, Exira, Buffalo Center, Renwick, and Durant. This is the first year that the cottony maple scale has been abundant in Iowa.

OAK

OAK TWIG PRUNER (Hypermallus villosus Fab.)

E. P. Felt (July 26): The maple and oak twig pruner, is reported as injurious in the Boston area.

Connecticut

W. E. Britton (July 24): Reported fully as abundant as last year at New Haven, Hartford, and Bridgeport.

New York

E. P. Felt (July 26): Reported as somewhat common at South Salem, N. Y.

OAK SPANWORM (Ellopia somnaria Hlst.)

Oregon

D. C. Mote (July 1): W. J. Chamberlin reports the oak looper is very abundant in certain sections on Gary oak.

OAK KNOT GALL (Andricus punctatus Bass.)

Massachusetts

E. P. Felt (July 26): The knotty oak gall, Andricus punctatus Bass., has been reported as causing considerable injury to trees at Jamaica Plain, Mass.

New York

E. P. Felt (July 26): A. punctatus Bass. has been reported as causing considerable injury to trees in the metropolitan area of New York City.

GOLDEN OAK SCALE (Asterolecanium variolosum Ratz.)

Massachusetts

E. P. Felt (July 26): A. variolosum is known to be somewhat common in the Boston area.

Connecticut

E. P. Felt (July 26): Serious infestations were recently reported from Kent.

New York

E. P. Felt (July 26): It is somewhat prevalent in the New York City area.

Pennsylvania

E. P. Felt (July 26): It is somewhat prevalent in the Philadelphia area.

Illinois

E. P. Felt (July 26): Serious infestations were reported from Chicago, Ill.

PINE

BARK BEETLES (Scolytoidea)

Mississippi

H. Dietrich (July 21): In Pascagoula River swamps in George County, Pinus glabra is being attacked by Ips calligraphus Germ. and Dendroctonus terebraus Oliv., together with various other scolytids usually found together. Mature pines were cut a year ago. Beetles bred up in tops and trees felled along the road this spring are now attacking living trees adjoining. I. calligraphus is by far the most prominent. Many clerid larvae are present and, with fungus, should stop infestation.

WHITE-PINE WEEVIL (Pissodes strobi Peck)

ermont

H. L. Bailey (July 5): The white pine weevil was reported as very plentiful in a Norway spruce plantation, at Dummerston July 3. Observations elsewhere show much damage by this insect.

onnecticut

E. P. Felt (July 26): Attacks young pines commonly and was specifically reported as injurious at Norwalk.

New York

E. P. Felt (July 26): Specifically reported as injurious at Chappaqua.

EUROPEAN PINE SHOOT MOTH (Rhyacionia buoliana Schiff.)

onnecticut

E. P. Felt (July 26): Evetria buoliana occurs here and there at Stamford.

ew York

E. P. Felt (July 26): The pine shoot moth, abundantly infests small pines near Peekskill, N. Y. It is locally somewhat common on Long Island.

A MOTH (Ocnerostoma pinariella Zell.)

ashington

Wm. W. Baker (July 7): This moth has just recently emerged and is mating now. The females appear to be well filled with eggs.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

io

E. W. Mendenhall (July 24): I find some outbreaks of the pine leaf scale on white pines and mugho pines in nurseries and private plantings in Columbus and vicinity.

braska

M. H. Swenk (June 15-30): About the usual number of complaints, beginning June 25, were received during the last few days in June relative to the infestation of spruce trees with the pine leaf scale (Chionaspis pinifoliae). These reports come chiefly from the eastern half of the State.

POPLAR

POPLAR BORER (Saperda calcarata Say)

io

E. W. Mendenhall (July 18): The poplar borer is very bad in Lombardy poplars, in a nursery at New Moorfield, Clark County.

ACERAMBICID (Saperda populnea L.)

izona

C. D. Lebert (July 25): The poplar borer was found killing young poplars at Phoenix
July 24th.

DUSKY LEAF ROLLER (Amorbia humerosana Clem.)

Maine

H. E. Peirson (July 22): About 300 acres of poplar stripped in Skinner.

SPRUCESPRUCE BUDWORM (Harmoloba fumiferana Clem.)

Michigan

R. H. Pettit (July 9): The spruce tortrix has been found in the following places since the 1st of January; Ann Arbor, Oscoda, Detroit, Charlotte, Hillsdale, Ionia, Bad Axe, Kalamazoo, Grayling, Farmington, Scottville, and Lakeside. (July 18): The spruce budworm is moderately abundant.

Wisconsin

E. L. Chambers (July 18): The spruce budworm is moderately abundant on large white pine stand in Bayfield County. Both the pine and balsam species are quite abundant in some sections. A very serious outbreak of the spruce budworm was discovered in southern Bayfield County recently which practically defoliated trees over an area of more than 500 acres comprising a good stand of jack and white pines. Many trees were already dead from attacks, apparently of previous years.

TAMARISKTAMARISK SCALE (Chionaspis etrusca Leon.)

Arizona

C. D. Lebert (July 25): This scale is extremely abundant throughout Phoenix. Every tamarisk tree has from few to many scales and in the majority of cases the upper limbs are completely covered to the extent that they have a moldy appearance. There has been considerable needles shed and many of the trees have a sickly appearance. In every case where there is from medium to heavy infestation of the scale a predacious ladybeetle (Olla abdominalis form. plagiata Casey) has become established in great numbers.

TULIPTULIP TREE SCALE (Toumeyella liriiodendri Gmel.)

Indiana

J. J. Davis (July 25): The tulip tree scale was reported abundant on tulip trees at Shoals July 22.

WILLOW

WILLOW CURCULIO (Crytorhynchus lapathi L.)

E. W. Mendenhall (July 18): I find an outbreak of the mottled willow borer at Springfield (Clark Co.).

J. J. Davis (July 25): The mottled willow and poplar borer was very destructive to pussy willow at St. Joe, June 26.

A CHRYSOMELID (Calligrapha multipunctata Say)

M. H. Swenk (July 1-15): Along the Missouri River in the vicinity of Blair, the leaf-beetle Calligrapha multipunctata occurring in great abundance, has defoliated the small willow trees 3 or 4 feet high, along the stream.

COTTONWOOD BORER (Plectrodera scalator Fab.)

E. W. Mendenhall (July 14): I find the cottonwood borer quite bad on pussy willow in some of the nurseries at Columbus.

AN ITONID (Rhabdophaga cornuta Walsh)

M. H. Swenk (July 1-15): Along the Missouri River in the vicinity of Blair, the small willow trees bear an abundance of the galls.

MORNING-CLOAK BUTTERFLY (Aglais antiona L.)

M. H. Swenk (July 15-30): During the last week in June the larvae of the morning-cloak butterfly were found badly stripping willow trees in Madison and Lancaster Counties.

YEW

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

E. P. Felt (July 26): The black vine weevil, was reported as injuring yew at Westbury, L. I., the insects being sufficiently abundant as to cause considerable injury.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

A CICADA (Diceroprocta viridifascia Walk.)

H. E. Spaulding (July 3): First observed in 1926, first serious in spring of 1930, killing entire plantations, of

Asparagus plumosus at Jupiter. Land cleared of Palmetto scrub in about 1920. First adults about June 15 but still coming out. Most serious on plants in wet spots.

Wm. T. Davis, who identified this insect, says, "It occurs along the coast from Virginia to the Gulf of Mexico and has been collected from May to September. In my experience D. viridifascia has not occurred in sufficient numbers to be a pest by laying eggs in branches of young trees or bushes."

A CICADA (Tibicens cinctifera Uhler.)

Arizona

C. D. Lebert (July 25): This insect was coming out in great numbers from July 1st to the 15th. On July 8th I visited one citrus grove near Phoenix and counted 167 cast skins on one tree trunk. Every tree held from 3 to 100 or more cast skins. At the present date the trees throughout the valley are literally alive with the adults. Thus far no damage of economic importance has been found.

APHIDS (Aphidae)

Indiana

J. J. Davis (July 25): During the latter part of June, aphids were very abundant. They were especially abundant on nasturtium, golden glow, rose, sweet pea, plum, radish, and turnip. Reports of June 26-July 9 came from New Carlisle, Tipton, Veedersburg, Warsaw, Lafayette, Anderson, and Franklin.

Texas

O. G. Babcock (June 12): Aphids in general are increasing on sweet peas and roses.

GREENHOUSE WHITEFLY (Trialeurodes vaporariorum Westw.)

Ohio

E. W. Mendenhall (July 2): Some of the vegetable greenhouses in Mt. Vernon (Knox County) are badly infested with the greenhouse whitefly. Tomatoes and cucumber plants are very full of the whitefly.

A MEALYBUG (Pseudococcus kranthiae Kuwana)

Mississippi

H. Dietrich (July 21): Mealybugs (P. kranthiae) are bad on coleus and other greenhouse plants at Lucedale. Det. A. & M. College.

ARBORVITAE

EUROPEAN FRUIT LECANIUM (Lecanium corni Bouche)

Ohio

E. W. Mendenhall (July 16): In some of the nurseries about Springfield we find the European fruit scale very bad. (July 22): The pyramidal arborvitae in nurseries about Springfield are badly infested with the soft scales or lecaniums. (July 24) The soft or lecanium scales are quite bad on pyramidal arborvitae in nurseries in Clark County.

CANNA

LARGER CANNA LEAF ROLLER (Calpodes ethlius Cram.)

North Carolina W. A. Thomas (July 1): Practically every canna border in this section presents an unsightly appearance as a result of the work of this insect. The infestation is more severe than ever before observed in this section.

Texas O. G. Babcock (June 12): The canna leaf roller is here and starting work on the canna lily.

CREPE MYRTLE

CREPE MYRTLE APHID (Myzocallis kahawaluokalani Kby.)

Mississippi R. W. Harned (July 22): Specimens of Myzocallis kahawaluokalani were collected on crepe myrtle plants at Lucedale on July 10.

H. Dietrich (July 31): Plant lice, Myzocallis kahawaluokalani Kby., are very abundant on crepe myrtle at Lucedale. (Det. A. & M. College).

FUCHSIA

STRAWBERRY LEAF BEETLE (Haltica litigata Fall)

Mississippi R. W. Harned (July 22): Flea-beetles, tentatively identified by J. M. Langston as Haltica litigata, were collected on Fuchsias at Columbus on July 9. These beetles had severely injured the Fuchsias in two beds containing about 400 plants, many of the plants having been entirely ruined.

IRIS

IRIS BORER (Macronoctua onusta Grote)

Michigan R. H. Pettit (July 9): The iris borer has been found this season at Lake Odessa, Lansing, Port Huron, Jeddo, and Belding.

I N S E C T S A T T A C K I N G M A N A N D

D O M E S T I C A N I M A L S

MAN

MOSQUITOES (Culicinae)

Missouri L. Haseman (July 26): In the vicinity of ponds, creeks, and

springs, mosquitoes (Culex sp.) have bred in great numbers and have been very annoying.

Montana

W. B. Mabey (July 22): Mosquitoes are unusually abundant over the entire State this season.

Mississippi

J. E. McEvilly (July 18): Mosquitoes are not abundant or causing any annoyance to residents in McComb.

Oregon

D. C. Mote (July 1): Aedes vexans Meig. and Aedes aldrichi Dyar and Knab began emerging about June 16 and apparently had passed the peak by June 25. The flood stage on the Columbia River is lower this year than in the past year and the waters have been receding since about June 18.

BLOOD-SUCKING CONENOSE (Triatoma sanguisuga Lec.)

Kentucky

W. A. Price (July 25): The blood-sucking cone-nose, T. sanguisuga, was the cause of considerable annoyance to many people, especially babies, in Lexington.

CATTLE

HORN FLY (Haematobia irritans L.)

Missouri

L. Haseman (July 26): The hot, dry weather has materially reduced the numbers of horn flies throughout central Missouri.

Texas

O. G. Babcock (June 12): Horn flies are becoming quite numerous, in some cases beginning to gather about the bases of the horns. Will carry from 100 to 1,000 per animal. Breeding conditions for the horn fly almost ideal.

HORSE FLIES (Tabanidae)

Missouri

L. Haseman (July 26): In spite of the drought during July horse flies have appeared in considerable numbers, causing much annoyance to livestock.

Montana

W. B. Mabey (July 22): Horse flies (Tabanidae) are a bit more abundant than normally.

STABLE FLY (Stomoxys calcitrans L.)

Iowa

C. J. Drake (July 22): The stable fly is extremely abundant in Iowa this year. About 1,300 flies were collected in a sweep of the net on the leeward side of one of the college barns this week. It is estimated that on an average 50 flies were resting on each brick on that side of the building.

- Missouri L. Haseman (July 25): The hot, dry weather has materially reduced the numbers of stable flies throughout central Missouri.
- Nebraska M. H. Swenk (June 15-30): Annoyance to livestock by the biting stable fly commenced to be received commonly during the last three days in June, from southern and eastern Nebraska. (July 1-15): The biting stable fly was exceedingly annoying to livestock in all parts of Nebraska during the period here covered. Many requests were received for fly sprays to use against this pest.

HOUSEHOLD AND STORED -

PRODUCT INSECTS

TERMITES (Reticulitermes spp. et al.)

- New York E. P. Felt (July 26): White ants, Reticulitermes flavipes Kollar, were reported as injuring the roots of yew or Taxus at Westbury, L. I.
- Indiana J. J. Davis (July 25): Termite infestations were reported during the month from Martinsville, Crawfordsville, and Indianapolis.
- Alabama J. M. Robinson (July 23): Termites are abundant at Selma and Jacksonville.
- Arizona C. D. Lebert (July 25): Several complaints from Phoenix residences having the pests in the hardwood floors. At one residence, a termite identified as Leucotermes (Leucotermes aureus Snyder, was found to be doing severe damage to the hardwood flooring. Slight damage to young citrus seedlings northeast of Phoenix by an unidentified termite. The earthlike tubes were built up the trunks and the bark was eaten away beneath.
- California Monthly News Letter, Office of Los Angeles Co. Agr. Comr., Vol. 12, No. 6, (June 15): Contrary to recent belief, it has been determined, according to Deputy Agricultural Commissioner H. H. Wilcomb, that the dry-wood type of termite found generally infesting native growth on Catalina Island is not a new species, but one, Kaloterms minor Hagen, common to the southern coastal counties.

ANTS (Formicidae)

- Indiana J. J. Davis (July 25): Ants were annoying in dwellings at Michigantown, Frankford, Evansville, and Lafayette, during July.

Alabama

J. M. Robinson (July 23): The Argentine ant is very abundant at Birmingham.

A correction - The note on the Argentine ant by N. D. Peets on page 192 of the Insect Pest Survey Bulletin is incorrect. The poison campaign therein referred to was carried on only in the city of Brookhaven, Lincoln County. The note on the same insect by W. L. Gray on page 193 may be misleading, as the infested towns (Rodney, Jefferson County, Hambury and Meadville, Franklin County, Fort Adams and Woodville, Wilkinson County) are some distance from Natchez. The insect has not been found in the city of Natchez.

Mississippi

M. R. Smith (July): J. P. Kislanko has recently taken workers of Paratrechina longicornis Latr. at Wiggins. This is the first time that the species has been recorded from an inland town in Mississippi. Winged ants taken at a trap light in Wiggins on June 26 by Mr. J. P. Kislanko have been determined by Dr. M. R. Smith as males of Eciton mexicanum Smith-Mayr. Mr. Jack Milton reports that Iridomyrmex analis Andre has been observed infesting a house at Corinth. The Argentine ant is very abundant at Columbus.

J. E. McEvilly (July 18): The Argentine ants have been practically controlled as a household pest in the towns of McComb and Summit.

J. Milton (July 19): The Argentine ant was found at Dennis on July 14. This is the first time that this ant has been found in Tishomingo County.

R. W. Harned (July 22): The number of localities in Mississippi from which the Argentine ant has apparently been completely eradicated is increasing each month. Among the places at one time infested with this insect where campaigns have been successful in apparently eradicating it are the following: Fayette, Shaw, Quitman, Landon, Lyman, Woolmarket, Moss Point, Mayhaw, Newton, A. & M. College, Longview, Osborn, Sassums, Star, Wiggins, and Centerville.

A POWDER-POST BEETLE (Apatides fortis Lec.)

Arizona

C. D. Lebert (July 25): The larger powder post beetle was working in stored mesquite firewood in a garage in Phoenix, July 24th. Larvae and adults present in large numbers. The wood was being rapidly reduced to a powder.

EUROPEAN EARWIG (Forficula auricularia L.)

California

L. O. Essig (June 27): Found at Pinole the first record of this insect out of the area of Oakland, Berkeley, and Richmond.

AS 10

THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

Volume 10

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Number 7

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INSECT PEST SURVEY BULLETIN

Vol. 10

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No. 7

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR AUGUST, 1930

The serious grasshopper conditions reported in the last number of the Bulletin continued during August, and particularly serious outbreaks occurred in Idaho and northern Utah.

The pale western cutworm was reported as locally serious in Utah, and the Bertha armyworm was reported in outbreak numbers in the northeastern corner of North Dakota during August.

The periodical outbreak of the white-lined sphinx reported from Nevada in the last number of the Survey Bulletin extended westward into the Lake Tahoe region of California.

The dry-weather conditions of July extended through August and, as was to be expected, damage by the red spider continued throughout the month.

In this number of the Survey Bulletin is a summary of the Hessian fly survey of New York State. The infestation as a whole is light, averaging for the State 3.7 per cent. In southeastern Nebraska about 80 per cent of the puparia were dead by the last of July, largely as a result of the hot, dry weather.

The fall armyworm continued its depredations during August throughout the Gulf Region.

Very severe damage by several species of corn root worms is reported from southwestern Nebraska; Diabrotica virgifera Lec. was the most destructive species. A species heretofore of practically no economic importance, D. filicornis Horn, was also seriously numerous.

The velvetbean caterpillar is again appearing in parts of Louisiana, although not so numerously as in 1929.

On the whole, the codling moth seems to have been stimulated by the unusually high summer temperatures, and severe late injury is reported from the entire drought area.

The oriental fruit moth is apparently not unusually abundant throughout the New England and Middle Atlantic States; in fact twig infestation has been lighter than usual over much of this territory. This condition extends southward to Georgia and westward to Indiana.

The plum curculio seems to be unusually abundant throughout the Northern States and at a very low ebb in the South.

The citrus whitefly and the citrus rust mite have been more troublesome than usual in Florida. This is believed to be due to the dry weather inhibiting the development of entomogenous fungi.

Blister beetles are generally prevalent and destructive throughout the East-central and North-central States.

The asparagus beetle is definitely recorded for the first time from southern California. The pest has been more or less serious throughout central California for a number of years.

In Massachusetts the Mexican bean beetle has been found to be well distributed over the Connecticut Valley region of Hampden County and northward into Hampshire County. The pest has also been found in a few instances in Franklin County. In the older infested States in the drought area the insect was reduced to a negligible factor by the high temperature.

Tobacco hornworms are very decidedly less abundant than usual in the Tennessee tobacco-growing districts.

The saddled prominent, Heterocampa guttivitta Walk., is appearing in outbreak numbers in the New England States where it is defoliating large areas of beech and maple.

The gipsy moth is at a low ebb of abundance but the brown-tail moth is showing a decidedly upward trend in the New England States.

A repetition of the outbreak of the green-striped maple worm which occurred in 1917 and 1918 is occurring in parts of Massachusetts and Connecticut.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Ohio

T. H. Parks (August 25): Complaints about grasshopper damage were received from Clinton County, in the heart of the drought area. Damage to soy beans occurred after the hoppers had left meadows and pasture fields, where the grass was destroyed by heat and drought.

North Dakota

H. W. Riddle (August 14): Infestations have been noted in Dunn, Divide, Pembina, McLean, and particularly in Walsh and Grand Forks Counties.

Iowa

H. E. Jaques (August 20): Grasshoppers are very abundant in the western half of the State and moderately abundant in many other counties.

Mississippi

F. P. Amsler (August 18): Romalea microptera Beauv. is abundant at Gulfport.

Nebraska

M. H. Swenk (July 15-August 15): Grasshoppers (Melanoplus differentialis Thos.) developed considerable abundance and destructiveness in Nebraska during the period here covered. Boyd County suffered a particularly heavy infestation, with considerable injury in the alfalfa and grain fields. Other centers of severe infestation were southern Brown County, Platte and Polk Counties, and southern Lancaster, Otoe, and Johnson Counties. Serious damage was done to apple orchards in Otoe and Cuming Counties by the grasshoppers stripping the leaves from the trees.

Wyoming

A. P. Sturtevant (August 28): If the coming winter and spring are favorable an increase is expected next year in the number of grasshoppers, at least in parts of Wyoming.

Colorado

A. P. Sturtevant (August 28): It is expected that more than the normal number of grasshoppers may be looked for in Colorado next year.

Idaho

C. Wakeland (July 26): Grasshoppers are in greater abundance this year than for several years. The county agent in Cassia County has held a mixing demonstration in one community where Melanoplus mexicanus Sauss. was migrating from range areas to cultivated crops. The county agent in Jefferson County has held two or three small demonstrations for the same species and the county agent of Kootenai County is working with a group of farmers in poisoning the grasshoppers in small local outbreaks. Quite a heavy infestation of Camnula pellucida Scudd. is reported from the Henry's Lake district in Fremont County. Dr. Parker has visited this community recently and reports that infestation is severe enough to cause alarm for another season.

Utah G. F. Knowlton (August 7): Grasshoppers continue to be very abundant in northern Utah, causing damage to sugar beets, alfalfa seed fields, and many other crops.

CUTWORMS (Noctuidae)

Utah G. F. Knowlton (July 28): The pale western cutworm (Porosagrotis orthogonia Morr.) destroyed approximately 40 acres of dry farm wheat in a 60-acre field at Fairview. Other nearby fields were damaged less severely, and mostly in spots. Larvae stopped feeding about two weeks ago.

BERTHA ARMYWORM (Barathra configurata Walk.)

North Dakota H. W. Riddle (August 14): The three counties in the north-eastern corner of the State have been reported as suffering a fairly serious outbreak. There is a much less noticeable attack this year than at this time in 1929.

WHITE-LINED SPHINX (Celerio lineata Fab.)

California E. O. Essig (July 31): The white-lined sphinx was abundant in the Sierras in the Lake Tahoe region in June and July.

WIREWORMS (Elateridae)

South Carolina J. N. Tenhet (August 20): Injury by Horistonotus uhleri Horn has been very severe this season, and much new territory seems to be invaded. The infested territory seems to be slowly spreading. Adults of this species have been remarkably scarce this summer. (August 21): Adults of Monocrepidius vespertinus Fab. have been very abundant for the past six weeks.

Alabama K. L. Cockerham (August 5): Soil sifting for the larvae of Heteroderes laurentii Guer. in the vicinity of Foley has indicated a population as follows: Per square foot soil 4 inches deep, in early corn an average of $2\frac{3}{4}$ larvae were found; in similar area in early Irish potato field followed by late corn an average of 5 larvae were found; similar area in grassy turf indicated one-fourth larva per unit. Since at this time larvae are small, many are no doubt overlooked; it is possible, therefore, that the infestation is greater than indicated by counts so far obtained.

WHITE GRUBS (Phyllophaga spp.)

Maine H. B. Peirson (August 16): White grubs are very abundant in a forest nursery at Orono.

Illinois W. P. Flint (August 16): A white grub survey conducted throughout the northern part of the State by Mr. Bigger and Mr. Compton has shown damage by Brood A to be rather spotted.

Spots of severe damage occur in all counties throughout the northern half of the State.

Michigan R. H. Pettit (August 15): White grubs of Brood A are moderately abundant on the southern half of the lower peninsula.

RED SPIDER (Tetranychus telarius L.)

Virginia G. E. Gould (August 23): Red spiders are still doing serious damage to beans.

L. W. Brannon (August 13): Red spiders have been more injurious to beans this season than for several seasons.

Ohio E. W. Mendenhall (August 5): On account of the long drought the red spider mites are very bad on blackberry and raspberry plants at Falloway, Franklin County. The leaves are a sickly yellow color.

Indiana J. J. Davis (August 19): Red spiders ruined a commercial crop of beans at Indianapolis, according to a report dated August 5. This pest was also destructive to elder at Frankfort, July 25, and abundant on red maple at Sullivan, August 5.

Illinois W. P. Flint (August 16): This mite has been much more abundant than usual, causing severe injury to evergreens, various ornamental shrubs, and, in several cases, to commercial apple orchards.

Kentucky M. L. Midlake (August 23): Red spiders are very abundant on hydrangea, lily-of-the-valley, morning-glory, and other plants.

South Dakota H. C. Severin (August 17): Red spiders are extremely abundant, and many garden plants, small fruits, and plums have been injured.

Nebraska M. H. Swenk (July 15-August 15): The red spider was complained of as injuring spruce in a number of instances in eastern Nebraska during the latter half of July.

Mississippi R. W. Harned (August 22): Many complaints in regard to infestations on cotton and ornamental plants of various kinds were received from all sections of the State during the first week of August.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

New York

C. R. Crosby (August 1): Hessian fly survey for 1930:

County	Number of samples	Average per cent of infestation
Niagara	28	2.0
Erie	4	13.0
Cayuga	12	8.0
Genesee	12	9.3
Livingston	40	2.7
Monroe	20	2.0
Onondaga	6	5.3
Ontario	35	2.5
Orleans	15	3.2
Seneca	6	2.6
Tompkins	3	2.7
Wayne	17	5.6
Wyoming	24	3.2
Yates	10	2.4
Total	232	
Weighted average		3.7

Indiana

J. J. Davis (August 19): The Hessian fly is moderately abundant in southwestern Indiana.

Iowa

H. E. Jaques (August 20): The Hessian fly is moderately abundant in Des Moines County; also reported present, but scarce, in the western part of the State.

Nebraska

M. H. Swenk (July 15-August 15): The month of July was extremely hot and dry, and these severe weather conditions had a very adverse effect upon the puparia in the wheat stubble fields of southeastern Nebraska. Preliminary counts made in Cass and Clay Counties indicated that only about 20 per cent of the fly puparia were still viable the last of July.

WHEAT STRAW WORM (Harmolita grandis Riley)

Nebraska

M. H. Swenk (July 15-August 15): The wheat straw worm was quite prevalent in the wheat fields of southern Dundy County during July, but no apparent commercial damage resulted from the infestation.

GREEN BUG (Toxoptera graminum Rond.)

North Dakota

H. W. Riddle (August 14): The green bug has caused serious

damage to oats and wheat in Mountrail, Ramsey, Barnes, Grand Forks, Wells, Nelson, La Moure, Towner, Griggs, and Sheridan Counties.

CORN

CHINCH BUG (Blissus leucopterus Say)

South Carolina A. Lutken (July 30): The chinch bug is reported from the southeastern section of the State.

Michigan R. H. Pettit (August 15): The chinch bug is moderately abundant in the lower two tiers of counties.

Ohio J. S. Houser (August 11): The chinch bug is moderately abundant; more inquiries than usual.

T. H. Parks (August 25): Chinch bugs have been damaging corn in a few fields in western Ohio. Complaints reached this office during July from Van Wert County in particular. The insect has increased in abundance over last year.

N. F. Howard (August 12): Infestation by chinch bugs, which ordinarily cause considerable damage in this area (Columbus), has been relatively light. Mr. T. H. Parks believes that the chinch bug is coming back but at the present time it will have to be rated as lighter than usual.

Mississippi N. D. Peets (August 18): The chinch bug is abundant on corn in Lincoln and Copiah Counties.

Arkansas D. Isely (August 22): The chinch bug is of more than average abundance and is causing some serious local injury to corn and rice in the rice belt.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

North Carolina C. H. Brannon (August 26): This species continues to cause widespread damage over the eastern part of the State.

South Carolina A. Lutken (July 30): The fall armyworm appeared in the central and southeastern sections of the State about July 10.

Georgia W. H. Clarke (August 16): Serious injury by the fall armyworm was found at Luella, where corn leaves were being stripped. A field of young soy beans had been practically destroyed. Injury to cotton was the most severe; ragged feeding areas occurred on the leaves, but the most severe injury was being done to the developing bolls. Three larvae were found feeding in a single boll. Numerous carabid larvae were present and were destroying many of the armyworms. The carabid larvae were also

noted to be feeding on the larvae of the armyworm that had entered the soil for pupation.

M. S. Yeomans (August 18): Heavy infestations in the lower part of the State were reported during July. Many complaints from the middle section of the State are being received at this time.

O. I. Snapp (August 13): Reports of damage in Peach County and adjoining counties are still being received.

Florida

J. R. Watson (August 25): The August brood was not nearly so large as the July brood.

Alabama

J. M. Robinson (August 26): The heaviest infestation on record in many localities in the State occurred from August 11-26. Infestation general over State.

Mississippi

R. W. Harned (August 22): Infestations occurred in practically all sections of the State during August. In some instances corn, sorghum, soy beans, and peas have been severely injured.

F. P. Amsler (August 18): An outbreak occurred in the Gulfport district the second week in August. Some of the paved streets in Gulfport were covered with the worms.

ARMYWORM (Cirphis unipuncta Haw.)

Virginia

G. E. Gould (August 26): The first armyworms were observed on August 5 and by August 8 reports of injury had been received from many parts of Princess Anne County. Severe injury occurred in several instances to millet, sudan grass, alfalfa, and corn. Most of the larvae had disappeared by August 12 and at present moths are abundant.

L. W. Brannon (August 13): A serious outbreak of the armyworm occurred in this section during the past week. More numerous this season than for the past several years.

CORN EAR WORM (Heliothis obsoleta Fab.)

New York

Geneva Experiment Station (August 15): The corn ear worm is moderately abundant in western New York.

Minnesota

A. G. Ruggles and assistants (August): Reports of moderate abundance have been received from several localities in the southern part of the State, and W. A. Dickins reports this insect as very abundant at Windom.

Iowa

H. E. Jaques (August 20): The corn ear worm is very

abundant in Des Moines and Polk Counties and moderately abundant on corn and tomatoes in the central and southwestern part of the State.

C. N. Ainslie (August 13): Field corn in this region (Sioux City) shows an almost complete absence of the ear worm this year, in fact not a single case of infestation has been found during inspection of cornfields. Early sweet corn was attacked to a slight degree but much less than normally. Corn husks grow compactly this year and this may repel the larvae.

rkansas

D. Isely (August 22): The corn ear worm is unusually destructive this season, in its injury to both cotton bolls and corn. The most serious injury noted to corn was in an 80-acre field in Pulaski County in which the entire grain crop was destroyed owing to cutting off of silks by the worms, apparently before pollination had taken place.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

lorida

J. R. Watson (August 25): This insect has been rather troublesome to cowpeas and other crops.

ississippi

R. W. Harned (August 22): Several complaints have been received in regard to injury to cowpea and bean plants. These complaints came from Stone, George, and Jefferson Davis Counties. Corn plants injured by this species were received on August 13 from Durant.

CORN ROOT APHID (Anuraphis maidiradicis Forbes)

braska

M. H. Swenk (July 15-August 15): The corn root aphid was quite injurious this summer in Kearney and Harlan Counties.

CORN ROOT WORMS (Diabrotica spp.)

braska

M. H. Swenk (July 15-August 15): The outstanding entomological trouble in Nebraska during the period here covered was an intense outbreak of corn root worms (Diabrotica spp.) in southwestern Nebraska. The prevailing species was D. virgifera Lec., which did considerable injury in this same section in 1927, and a little last year. A considerable smaller number of D. longicornis Say were present in the region, and an entirely new corn root worm, D. filicornis Horn, described years ago from New Mexico, contributed heavily to the injury, especially in Chase County.

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

A correction: The note on the alfalfa weevil by G. G. Schweis in the Insect Pest Survey Bulletin, page 275, second line, should be corrected so that "fruit crop" will read "first crop."

Nevada

G. G. Schweis (August 19): The alfalfa weevil adults are more numerous than during the preceding two seasons.

COWPEAS AND SOY BEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Louisiana

H. Spencer (August 19): The soy bean worm or caterpillar has appeared again at Baton Rouge and in Iberia Parish. Larvae are of all sizes, and are much more numerous than those of a previous brood, which appeared here the middle of June. Soy bean leaves have many ragged holes in them, but so far the damage is less than it was in 1929, when stripping of the plants occurred over a large area. To avoid possible loss of the hay crop, the soy beans are being cut and cured early this year.

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

North Carolina

C. H. Brannon (August 26): Very severe damage from this species is evidenced by large numbers of specimens sent in from many sections of the State.

South Carolina

J. N. Tenhet (August 21): In some fields the cowpea pod weevil is severely injuring cowpeas.

Alabama

J. M. Robinson (August 26): The cowpea curculio is very abundant over the State, attacking field peas, soy beans, lima beans, and snap beans.

F R U I T I N S E C T S

COTTON LEAF WORM (Alabama argillacea Hbn.)

Louisiana

H. Spencer (July 29): Several reports of the occurrence of the cotton leaf worm have been received. This insect has appeared near Carencro and Ridge in Lafayette Parish and in Cameron Parish.

Mississippi

R. W. Harned (August 22): Beginning with July 28 complaints accompanied by specimens of the cotton leaf worm were received every day through August 9. Since that date a few scattering

reports have been received in regard to this insect, the latest one being August 18 from Clarke County. The infestation as a whole was not a very heavy one, but in some localities the worms were abundant enough to demand control measures.

Oklahoma

C. F. Stiles (August 19): The cotton leaf worm is moderately abundant in central and southeastern Oklahoma.

APPLE

CODLING MOTH (*Carpocapsa pomonella* L.)

New York

Geneva Experiment Station (August 15): The codling moth is very abundant in the Hudson Valley and western New York.

Weekly News Letter, N. Y. State Coll. Agr. (August): Severe damage in both the lower Hudson River Valley and the lake region is being caused by the second-brood larvae.

Delaware

L. A. Stearns (August 18): A partial third brood will be developed this season.

Georgia

C. H. Alden (August 18): The codling moth is moderately abundant at Cornelia. A heavier infestation than at this time last year.

Florida

E. W. Berger and G. B. Merrill (August 27): The codling moth is moderately abundant, infesting pears, at Lake Butler; caterpillars are quite abundant.

Ohio

T. H. Parks (August 25): The codling moth is on the increase in all parts of the State. Injury is severe in Lawrence County and growers have been handicapped in fighting it owing to a scarcity of water for spraying.

Indiana

J. J. Davis (August 19): The hot, dry conditions have been unusually favorable for the codling moth and we may anticipate considerable late damage. This insect is very abundant in southern Indiana.

F. H. Lathrop (August 12): Infestations in the Vincennes area have gradually increased during the season. At present there is serious infestation in some of the apple orchards. Mr. Sazama estimated that this insect is more abundant than at any time since 1926.

Illinois

F. H. Lathrop (August 13): In the Hudson orchard at Parkersburg there appears to be very nearly 100 per cent infestation of the fruit. By examination of 40 apples from one tree we found 116 codling moth eggs. A considerable

proportion of the eggs have apparently dried up instead of hatching, probably as a result of the hot, dry weather.

W. P. Flint (August 16): The extreme dry weather of the past month has been somewhat favorable to the codling moth. The insect has been increasing on the whole and is slightly more abundant than usual for this date. Well sprayed orchards, however, are very clean in all parts of the State.

Kentucky

F. H. Lathrop (August 12): At present there are serious infestations in some of the apple orchards in Henderson County.

Arkansas

A. J. Ackerman (August 11): The codling moth caused serious damage last year following the first brood and this year it appears that the insect will be more injurious during the late season.

Kansas

P. M. Gilmer (August 14): The codling moth is present in as great abundance as was expected by the very early season. The drought has had the effect of somewhat increasing the infestation over what it would have been in a normal year.

Idaho

C. Wakeland (July 26): Codling moth developments have been puzzling throughout the year. There were three small peaks of emergence of adults of the first brood and no time when there was what would be considered a general height of emergence. This condition has made the planning of spray applications very difficult. Growers in general have applied from one to two more cover sprays than ordinarily and control to date is exceptionally good.

Nevada

G. G. Schweis (August 19): Codling moths are now on the wing; unsprayed fruit is 100 per cent wormy.

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

Vermont

H. L. Bailey (August 26): The yellow-necked apple tree caterpillar has been unusually plentiful, particularly in the western part of the State.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

Ohio

T. H. Parks (August 25): Injury is serious in a few orchards of southern Ohio. One grower has been cutting them out and reports more injury than he has ever observed.

APPLE CURCULIO (Tachypterellus quadrigibbus Say)

New Hampshire

P. R. Lowry (August): Severe injury found in Hopkinton, Salisbury, Gilmingtong, Temple, and Hancock. Adults abundant during June and larvae fairly common June 25.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Maryland

J. A. Hyslop (August 30): The shot-hole borer has killed several Japanese cherry trees in Montgomery County and is also seriously infesting other trees weakened by the drought.

Ohio

T. H. Parks (August 25): Complaints about injury from these insects are coming more frequently than usual. We attribute this to the weakened condition of trees caused by the prolonged drought. Wild cherry, peach, and plum are the trees affected.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Georgia

O. I. Snapp (August 13): The first adult of the season emerged on July 22. Egg deposition began on July 31.

W. H. Clarke (July 30): Numerous pupae were collected from the soil at the base of peach trees today. (August 1): A total of 18 pupae and cocoons were collected from the base of a single tree. Numerous empty cases noted; two cases of field emergence were recorded.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Connecticut

P. Garman (August 24): The oriental peach moth is less abundant in New Haven County than it was last year.

New York

Weekly News Letter, N. Y. State Coll. Agr. (August): Injury by this insect continues to be severe in the western part of Niagara County. It has also been noticed in Orange, Columbia, and Dutchess Counties.

Geneva Experiment Station (August 15): The oriental fruit moth is moderately abundant in both the Hudson Valley and western New York.

New Jersey

T. J. Headlee (August 15): The oriental fruit moth is moderately abundant.

New Jersey
and
Delaware

John Gray (July 25): Twig infestation is very light at this date (July 23) in New Jersey and Delaware, but third-brood infestation has begun and promises to be very heavy by the end of next week. The peak of the second brood was reached about Moorestown, N. J., July 5 with 82 per cent of the peach trees showing larval infestation and 17 per cent twig injury.

Delaware

L. A. Stearns (August 18): The third brood is active at the present time.

- West Virginia L. M. Peairs (August 27): The oriental fruit moth is considerably less abundant than it was during 1929.
- Georgia O. I. Snapp (August 13): The oriental fruit moth infestation continues light at Fort Valley.
- W. H. Clarke (July 30): The infestation in middle Georgia has been light all season. Only a very few cases of fruit injury have been noted.
- C. H. Alden (July 25): The oriental fruit moth is moderately abundant at Cornelia.
- South Carolina A Lutken (July 30): The oriental fruit moth is moderately abundant in the northern part of the State.
- Ohio J. S. Houser (August 11): The oriental fruit moth is moderately abundant. Dry weather is not favorable to this insect.
- T. H. Parks (August 25): Early varieties of peaches harvested in mid-August are not seriously infested.
- Indiana F. H. Lathrop (August 12): The oriental fruit moth has not been so abundant in southern Indiana this season as its activities last summer presaged. It is probable that there was heavy mortality of overwintering larvae as a result of low temperatures. Nevertheless, the infestation of peach twigs by the first-brood larvae was approximately equal to that of the preceding spring. The second and later broods failed to increase in numbers to normal expectancy. Since July 1 there has been slight increase in most of the orchards of this area. During the past two weeks, there has been a slight decrease of infestation in some orchards. Moths developed from twigs brought into the laboratory this season are below normal size. In laboratory studies, the moths do not oviposit freely.
- J. J. Davis (August 19): The oriental fruit moth is very abundant, especially in southern Indiana.
- PLUM CURCULIO (Conotrachelus nemuphar Hbst.)
- Maine H. B. Peirson (August 16): The plum curculio is very abundant in general.
- New Hampshire P. R. Lowry (August): Considerable injury was noted during August in the southern part of the State.
- Massachusetts A. I. Bourne (August 22): The plum curculio very generally appears to be doing less damage than usual, not only in the

well sprayed orchards but also in more exposed or less carefully sprayed orchards.

Delaware

L. A. Stearns (August 18): The second-brood grubs are leaving the fruit in Sussex County.

Georgia

W. H. Clarke (July 30): Injury has been very light this season. All varieties have escaped serious injury. The Elberta harvest is practically completed. (August 18): The Brackett and Woodland Cling varieties have also escaped injury. The last of the Woodland Cling are being harvested today.

O. I. Snapp (August 13): The infestation in Georgia this year was the lightest in years, certainly lighter than any year since 1918.

Ohio

J. S. Houser (August 11): The plum curculio is very abundant, especially in orchards having a light crop.

Illinois

W. P. Flint (August 16): The extremely dry weather has apparently been unfavorable to the plum curculio larvae and emergence from drop spoles is very light.

Michigan

R. H. Pettit (August 15): The plum curculio is very abundant everywhere.

Minnesota

A. G. Ruggles (August): The plum curculio is reported in moderate abundance generally and very abundant in Aitkin, Fillmore, and Hennepin Counties.

Nebraska

M. H. Swenk (July 15-August 15): The plum curculio caused considerable injury to the plum crop in a small orchard in Morrill County during the first half of August.

PLUM

PLUM GOUGER (Anthonomus scutellaris Lec.)

Nebraska

M. H. Swenk (July 15-August 15): The plum gouger caused considerable injury to the plum crop in a small orchard in Morrill County during the first half of August.

CITRUS

MEDITERRANEAN FRUIT FLY (Ceratitis capitata Wied.)

Florida

Plant Quarantine and Control Administration (August 15): During the period August 1-7 there were submitted to the Orlando office for identification 42,839 specimens of larvae sent in from various points in Florida by some 600 inspectors engaged in the field inspection work. These larvae, none of which proved to be the Mediterranean fruit fly, were taken

from avocado, guava, pepper, orange, grapefruit, tomato, sour orange, cactus, peach, fig, plum, pomegranate, pear, grape, wild plum, wild grape, ground cherry, lemon, eggplant, persimmon (wild and Japanese), pawpaw, tangerine, papaya, olive, mango, mushroom, palm fruit, custard apple, lime, maypop, banana, almond, quince, love apple, Surinam cherry, sapota, and cantaloupe.

CITRUS APHID (Aphis spiraeicola Patch)

Florida

J. R. Watson (August 25): The citrus aphid, which was unusually abundant during the early part of July for that time of the year, has almost disappeared from the groves. This is due apparently mostly to the activities of ladybeetles and syrphus fly larvae.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida

J. R. Watson (August 25): The citrus whitefly is very abundant, more abundant than for many years. The months of July and August have been abnormally dry in Florida, with the result that the entomogenous fungi have not been as effective as usual. Consequently, the citrus whitefly has been more abundant than for several years.

CITRUS RUST MITE (Eriophyes oleivorus Ashm.)

Florida

J. R. Watson (August 25): The citrus rust mite is moderately abundant; more common than usual for August. The months of July and August have been abnormally dry in Florida, with the result that the entomogenous fungi have not been so effective as usual. Consequently, the rust mite has given more trouble than usual.

TRUCK - CROP INSECTS

BLISTER BEETLES (Meloidae)

- iana J. J. Davis (August 19): Blister beetles continued abundant from July 21 until August 2, the last date reported.
- inois W. P. Flint (August 16): Blister beetles (Epicauta vittata Fab. and E. marginata Fab.) have been very abundant in western Illinois. They were found attacking stock beets, squashes, and melons.
- th Dakota H. W. Riddle (August 14): July 26 - August 6. A survey in Pembina County reveals that county as being very seriously infested with these insects. From Ramsey and Cavalier Counties, also in the northeastern section of the State, several inquiries have been received as there is a noticeable outbreak there.
- raska M. H. Swenk (July 15 - August 15): In Webster County potato plants in a field and adjacent garden truck were badly injured by swarms of Epicauta cinerea Forst.
- o E. W. Mendenhall (August 1): Blister beetles are bad on dahlias in gardens and nurseries at St. Paris, Champaign County.
- a H. E. Jaques (August 20): The striped blister beetle (E. vittata Fab.) is reported very common in Van Buren County.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

- iana J. J. Davis (August 19): The spotted cucumber beetle was reported damaging flowers, tomatoes and other garden crops at Rensselaer, August 15. At Ligonier (August 15) it was reported as damaging small corn.

POTATO AND TOMATO

POTATO STALK WEEVIL (Trichobaris trinotata Say)

- tucky M. L. Midlake (August 23): The potato stalk weevil is attacking eggplant.
- raska M. H. Swenk (July 15 - August 15): During the third week in July a potato field in Platte County was found practically destroyed by the potato stalk weevil.

POTATO LEAFHOPPER (Empoasca fabae Harr.)

- inia L. W. Brannon (August 13): The potato leafhopper has been more abundant this season than it was last season.

Minnesota A. G. Ruggles and assistants (August): Reports indicate that this insect is occurring in moderate abundance generally and probably above normal in Aitkin, Martin, Carlton, and Fillmore Counties.

South Dakota H. C. Severin (August 17): The potato leafhopper is very abundant in general. Large amount of damage done.

Iowa H. E. Jaques (August 20): The potato leafhopper is moderately abundant to very abundant throughout northeastern Iowa, also in Calhoun, Carroll, and Boone Counties.

TOMATO WORM (Protoparce sexta Johan.)

South Carolina J. N. Tenhet (August 16): A considerable acreage of late tomatoes is severely attacked.

Indiana J. J. Davis (August 19): Tomato worms were reported damaging potatoes at Leesburg, July 31, and tomatoes at Monterey and Union Mills, August 6 and 11.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

New York Weekly News Letter N. Y. State Coll. Agr. (August): Reports from Ontario and Monroe Counties during the last week in July and the first week in August indicate that cabbage worms are becoming quite numerous.

Minnesota A. G. Ruggles and assistants (August): This insect is occurring in normal abundance.

Iowa H. E. Jaques (August 20): The imported cabbage worm seems to be rapidly increasing in numbers throughout the State.

Nebraska M. H. Swenk (July 15 - August 15): The imported cabbage worm continued to be reported as injurious to cabbage during July and early August.

Utah G. F. Knowlton and M. J. Janes (August 19): Cabbage butterflies are very abundant, flying over the cabbage fields at Payson.

CABBAGE APHID (Brevicoryne brassicae L.)

New York Weekly News Letter N. Y. State Coll. Agr. (August): Reports from Niagara, Ontario, Monroe, and Ulster Counties indicate that the cabbage aphid is increasing rapidly.

iana

J. J. Davis (August 19): The cabbage aphid was reported July 21 as destructive to cabbage at Thorntown.

HARLEQUIN BUG (*Murgantia histrionica* Hahn)

th Carolina

P. W. Harrison (August 21): Collards in home gardens in Fairfax are quite heavily infested.

iana

J. J. Davis (August 19): The harlequin bug is abundant at Princeton.

ssissippi

R. W. Harned (August 22): A correspondent at Itta Bena reported on August 1 that harlequin bugs were causing much injury to turnip, mustard, and cabbage in her garden.

R. W. Harned and assistants (August): Reports from over most of the State indicate that the insect is appearing in the usual numbers this year.

STRAWBERRY

STRAWBERRY LEAF ROLLER (*Ancylis comptana* Frohl.)

va

C. N. Ainslie (August 20): Berry growers in the vicinity of Sioux City are much annoyed with this leaf roller, which has caused much damage to the strawberry vines. Effective control seems to be lacking, especially with ever-bearing varieties of berries.

ASPARAGUS

ASPARAGUS BEETLE (*Crioceris asparagi* L.)

ifornia

Monthly News Letter, Office of Los Angeles Co. Agr. Comm. Vol. 12, No. 8, (August 15): *Crioceris asparagi*, a more or less serious pest of asparagus throughout central California, has recently made its appearance in Southern California at Bell. The owners of the field were inclined to believe that the beetles have been present for several years, but this is the first season that they have caused sufficient damage to attract attention. The principal damage was found to occur late in the season and to be due to the feeding of larvae and adults on the foliage of the older plants. In northern fields the principal damage is to the new sprouts.

BEANS

MEXICAN BEAN BEETLE (*Epilachna corrupta* Muls.)

sachusetts

A. I. Bourne (August 22): Surveys the last week in July

showed the pest to be well distributed over the Connecticut Valley region of Hampden County. Isolated infestations were noted in bean fields along the main automobile highways leading east and west from the Valley. In August migration, led to an appearance of the beetles in fields through Hampshire County in the Connecticut Valley region just above Hampden County, and one or two instances were discovered in Franklin County, which is the northernmost Connecticut Valley county. In addition the area in Berkshire County where the pest was found last year has increased to a considerable extent.

Connecticut

W. E. Britton (August 25): This pest is found in small numbers and is apparently now distributed throughout the State, though not found in every bean patch.

New York

Weekly News Letter N. Y. State Coll. Agr. (August): The Mexican bean beetle can be found over practically all of Orange County on wax, string, and lima beans, though the infestation is not serious. This insect has also been noticed in Chautauqua County.

Maryland

L. W. Brannon (August 13): The Mexican bean beetle infestation is much lighter than last season on the Eastern Shore of Maryland.

J. A. Hyslop (August 29): Mexican bean beetle has practically disappeared in Montgomery County.

Virginia

G. E. Gould (August 23): The hot, dry weather of this season appears to have held the bean beetle in check. No reports of serious damage have been received and few beetles are present in the fields.

L. W. Brannon (August 13): The Mexican bean beetle has apparently been affected by the drought and accompanying extreme temperatures more than any insect in this section. The infestation in the Norfolk trucking section is much lighter than last season.

West Virginia

L. M. Peairs (August 27): The Mexican bean beetle is scarce to moderately abundant in the eastern panhandle, Monongalia County.

Ohio

N. F. Howard (August 12): The Mexican bean beetle has been severely reduced by the drought.

Indiana

J. J. Davis (August 19): The Mexican bean beetle was abundant at Spencer and Crawfordsville, July 26-28.

Michigan

R. H. Pettit (August 15): The Mexican bean beetle is scarce in Monroe County. Thus far only about a score of beetles have come to light this year. These were taken at Dundee in the southeastern corner of the State.

Mississippi

R. W. Harned (August 22): Inspector T. F. McGehee reports that pole beans in gardens at Ashland and Hickory Flat, which were found infested last year were recently inspected and found to be free of these insects.

Nebraska

M. H. Swenk (July 15 - August 15): Epilachna corrupta was found in Scotts Bluff County in August, 1927. It could not be found in either the summer of 1928 or in that of 1929, but reappeared there in early August of the present summer. Damage is decidedly local, commonly being on only a few plants in one part of the field, usually near the road or an irrigation ditch. The infested fields lie south of Lyman and south and east of Morrill, in Scotts Bluff County, according to a recent survey made by Prof. Don B. Whelan.

PEAS

PEA MOTH (Laspeyresia nigricana Steph.)

Michigan

R. H. Pettit (August 15): There seems to be an area of infestation in the upper peninsula of Michigan at Pickford. Samples of green peas just nicely ripening from a number of farms in Chippawa County were received today. The larvae are now about a quarter of an inch long.

MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

West Virginia

L. M. Peairs (August 27): The striped cucumber beetle is very abundant in Monongalia County.

Florida

J. R. Watson (August 25): The striped cucumber beetle is absent from most of Florida but very abundant in the Everglades.

Idaho

N. F. Howard (August 12): The cucumber beetle was apparently checked considerably in some sections but treatments to melons and cucumbers were necessary in others. On the whole, I would say that it was less injurious than in previous years.

Nebraska

M. H. Swenk (July 15 - August 15): Complaint of injury to cucumbers and other cucurbits continued to be received from southern Nebraska during July and early August.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

New York

Weekly News Letter, N. Y. State Coll. Agr. (July 28): Squash bugs are doing considerable damage in gardens.

Iowa C. N. Ainslie (August 20): This pest has been unusually abundant in northwestern Iowa this season and in many places has done marked injury. The drought and heat prevented the vines from recovering from the attack by swarms of nymphs.

Nebraska M. H. Swenk (July 15 - August 15): During the period here covered there were many complaints of injury by the squash bug. These complaints came from all over eastern and southern Nebraska.

Utah G. F. Knowlton (August 23): Squash bugs are damaging squash at Taylorsville.

SQUASH BORER (Melittia satyriniformis Hbn.)

Indiana J. J. Davis (August 19): The squash vine borer was reported destructive to squash at Battle Ground, Lafayette, and Leiter's Ford, July 29 - August 10.

Illinois W. P. Flint (August 16): This insect has been more numerous than usual. It has been reported from the stems of the ears of sweet corn. Specimens of what appear to be the larvae of this insect were sent in from stems of sweet-corn ears in the eastern part of the State.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Virginia G. E. Gould (August 23): The turnip aphid is appearing in new plantings of kale, broccoli, and Savoy cabbage. The insects are quite abundant on wild mustard and are probably migrating from this plant to the cultivated crops.

Indiana J. J. Davis (August 19): The turnip aphid is destructive to turnips at Jasonville according to a report of August 16.

SWEETPOTATO

SWEET-POTATO SAWFLY (Sterictiphora collaris Say)

Virginia G. E. Gould (August 23): The larvae are present in Norfolk and Princess Anne Counties again this year. The second-brood larvae caused considerable damage about the middle of August. The insects are probably as abundant as last year.

SUGAR BEETS

BEET LEAFHOPPER (Eutettix tenellus Baker)

G. F. Knowlton (August 20): The beet leafhopper is very abundant in most beet fields in northern Utah. Considerable late-season injury to sugar beets is evident in parts of northern Utah. Beets in this area vary from good to very poor. Late-planted beets are suffering most in Cache County.

E. O. Essig (July 31): Beet leafhoppers are moderately abundant in the Delta Region.

TOBACCO

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

A. C. Morgan (August 13): Tobacco flea beetles are unusually scarce at Clarksville and last week, in helping to take the infestation records on 20 fields of tobacco, I did not see a single flea beetle.

HORNWORMS (Protoparce spp.)

A. C. Morgan (August 13): The catch of hornworm moths, at Clarksville as compared to previous years, may be correctly estimated from records taken from a location which has been provided with traps for the three years 1928 to 1930. During 1928, at this location, July 12 to August 12, 433 moths were caught; in the same period in 1929, 1,222 moths were caught; during this same period in 1930, only 101 moths were caught. It might be of interest to note further that from July 12 to July 30, in 1928, only 18 moths were caught, while during the same period in 1930, 51 moths were caught. From July 30 to August 5 the increase in the catch was about the same as in previous years, but from the 5th on the catch has been practically nothing.

Last year an infestation record of fields outside our control area showed an average of 57 small worms and eggs per 50 plants; this year the average was 11 eggs and small worms. Unless there are very general soaking rains, an infestation of eggs and worms on sucker tobacco can not be looked for, which will very greatly reduce the numbers of moths for next year.

TOBACCO BUDWORM (Heliothis virescens Fab.)

A. C. Morgan (August 13): No recent tobacco budworm injury has been observed and while this insect is not very injurious here (Clarksville) commonly, it can be said to be now entirely absent.

RICE

RICE STALK BORER (Chilo pleiadellus Zinck.)

Louisiana W. A. Douglass (July 31): Eight stalks of rice out of 2,500 examined were infested by the rice stalk borer.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana W. A. Douglass (July 31): It is interesting to note that so far this season no larvae of the sugarcane borer have been found in rice stalks.

F O R E S T A N D S H A D E - T R E E I N S E C T S

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Ohio E. W. Mendenhall (July 30): While the bagworm seems to be well parasitized, an outbreak was found in east Dayton, infesting a block of pussywillows.

Indiana J. J. Davis (August 19): The bagworm was common on red maple at Sullivan, August 5, and very abundant on gum trees at Jasper, August 6.

Kentucky M. L. Midlake (August 23): Bagworms are very numerous on cedar.

FALL WEBWORM (Hyphantria cunea Drury)

Maine H. B. Peirson (August 16): The fall webworm is generally abundant, particularly on elm and willow, throughout the State.

Massachusetts A. P. Morse (August 12): The fall webworm is very plentiful this year in eastern Massachusetts, at least in Essex and southern Middlesex Counties.

A. I. Bourne (August 22): The fall webworm appeared to be slightly more abundant than it was last year. This is particularly noticeable in the eastern part of the State.

SADDLED PROMINENT (Heterocampa guttivitta Walk.)

Massachusetts
and
New Hampshire J. V. Schaffner Jr. (August 11): This species has appeared again in the Berkshires of Massachusetts. Outbreaks with some severe defoliation of beech and maple have been reported from many towns in western Massachusetts. Larvae have been found in several localities in the southern section of the White Mountains of New Hampshire though not abundant enough to cause stripping.

Connecticut

B. H. Walden (July 30): Heterocampa guttivitta has been reported at Norfolk and Canaan attacking maple and beech. Maples show defoliation on side hills over an area of three or four square miles. Anisota rubicunda Fab. was also present but not nearly so abundant.

Vermont

H. L. Bailey (August 26): The saddled prominent, Heterocampa guttivitta, defoliated many acres of woodland in Windham County, especially in Guilford and surrounding territory. It was also reported from Pawlet in Rutland County and Dorset in Bennington County. Sugar maple and beech are most seriously attacked. There was a similar outbreak of the species ten years ago.

BROWN-TAIL MOTH (Nyctia phaeorrhoea Don.)

Massachusetts

A. I. Bourne (August 22): There are indications that the brown-tail moth is somewhat more abundant than normal and growers in the eastern part of the State would do well to give careful attention to the removal of winter tents during the dormant season.

GIPSY MOTH (Portheia dispar L.)

New Hampshire

F. R. Lowry (August): The gipsy moth is less common than I have ever known it to be. Practically no large areas have been stripped.

Massachusetts

A. I. Bourne (August 22): The gipsy moth has been comparatively scarce and has given little trouble.

SATIN MOTH (Stilpnia salicis L.)

New Hampshire

F. R. Lowry (August): The satin moth has been abundant all over southern New Hampshire, willows being more generally stripped than heretofore. Larvae began to hatch July 23.

BIRCH

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fallén)

Maine

H. B. Peirson (August 16): There are heavy infestations of the birch leaf-mining sawfly in sections of the State surveyed to date. About 60 per cent of the leaves are infested.

BRONZE BIRCH BORER (Agilus anxius Gory)

Maine

H. B. Peirson (August 16): The bronze birch borer is gradually killing ornamental birch throughout the State.

BIRCH LEAF MINER (Fenusa pumila Klug)

New England

H. J. MacAloney (August 26): The common birch leaf miner in southern New England (species doubtful) is not so abundant as it has been.

Maine

H. B. Peirson (August 16): The birch leaf miner is generally heavy on gray birch throughout the State.

ELM

ELM LEAF BEETLE (Galerucella xanthomelaena Schr.)

New Hampshire

P. R. Lowry (August): A severe outbreak is occurring in Newfield, and many trees were found stripped. Adults are emerging in considerable numbers on July 28 and larvae are not common.

Connecticut

W. E. Britton (August 25): The elm leaf beetle is more abundant than for several seasons on elm at Guilford, Litchfield, and Thomaston.

Ohio

E. W. Mendenhall (July 31): The elm leaf beetle is quite bad on elms in New Carlisle, Clark County. A similar outbreak occurred there several years ago.

A LEAF BEETLE (Calligrapha scalaris Lec.)

Nebraska

M. H. Swenk (July 15 - August 15): The second brood of the leaf beetle Calligrapha scalaris did not prove so troublesome in late July and early August as the first brood did in Nuckolls and adjacent counties in June.

FIR

SPRUCE SAWFLY (Neodiprion abietis Harr.)

Maine

H. B. Peirson (August 16): A small outbreak of the fir sawfly, Neodiprion abietis, near Georgetown. Larvae are now pupating. They are feeding also on spruce.

LARCH

LARCH SAWFLY (Nematus erichsonii Hartig)

Maine

H. B. Peirson (August 16): Several small outbreaks in the Dead River section have been reported.

MAPLE

GREEN-STRIPED MAPLE WORM (Anisota rubicunda Fab.)

TWO-LINED PROMINENT (Heterocampa bilineata Pack.)

Massachusetts

A. I. Bourne (August 22): I wish to report another outbreak of the green-striped maple worm, and the two-lined prominent, attacking the maples and other hardwoods in the hill towns of Franklin, Hampshire, and Berkshire Counties. The same infestation also extended over a considerable area in southern Vermont. A similar outbreak was reported in the same area in 1917 and 1918 and was of similar proportions to the present outbreak. Reports of this outbreak came in during late July and early August. There was considerable defoliation. The situation was so serious that appeals were made to the State Department of Conservation for assistance in controlling the pest.

MAPLE NEPTICULA (Nepticula sericopeza Zell.)

Rhode Island

A. E. Stene (August 28): Nepticula sericopeza Zell. found abundant in Norway maple seeds at east Greenwich. Corroborated by Bromley Bartlett Laboratories.

MAPLE BLADDER GALL (Phyllocoptes quadripes Shim.)

Indiana

J. J. Davis (August 19): The bladder maple gall was reported as abundant on soft maple at Logansport August 14.

OAK

OAK TWIG PRUNER (Hypernallus villosus Fab.)

New Hampshire

P. R. Lowry (August): The oak twig pruner has been received several times during August from southeastern New Hampshire, in oak and apple.

Rhode Island

A. E. Stene (August 28): The oak tree pruner has been more abundant than usual.

New England

H. J. MacAloney (August 26): The maple and oak twig pruner is much more numerous in southern New England than it has been observed before.

PINE

A BARK BEETLE (Ips calligraphus Germ.)

Mississippi

H. Dietrich (August 20): Ips calligraphus Germ. is attacking living longleaf pines (P. palustris) in southern George County that have been weakened by heavy turpentine and possibly drought. The adjoining timber was cut this spring.

WHITE-PINE WEEVIL (Pissodes strobi Peck)

New England
States

H. J. MacAloney (August 26): I can not make any definite and conclusive statements at the present time but believe that the white-pine weevil has been delayed in its emergence for about two weeks, August 1 until August 15.

PINE BARK APHID (Chermes pinicorticis Fitch)

New England
States

H. J. MacAloney (August 26): The pine bark aphid seems to be less noticeable in southern New England, where there has been a prolonged dry spell, than it was last year, and less than it is now in northern New England, where there has been no lack of rain.

RED-HEADED PINE SAWFLY (Necodiprion lecontei Fitch)

Maine

H. B. Peirson (August 16): A small outbreak of Leconte's sawfly has been reported on Scotch pine near Bath.

SPRUCE

WHITE-PINE WEEVIL (Pissodes strobi Peck)

New Hampshire

P. R. Lowry (August): Adults and pupae cut from dead leaders of blue spruce at Durham, August 9.

SPRUCE GALL APHID (Chermes abietis Kalt.)

Maine

H. B. Peirson (August 16): The spruce gall louse is very common along the coast and in cities.

A LEAF MINER (Epinotia nanana Treitschke)

Maine

H. B. Peirson (August 16): "Spotted" outbreaks of the spruce webworm, Epinotia nanana, along the coast remain quite heavy.

SPRUCE MITE (Paratetranychus uniunguis Jacobi)

Maine

H. B. Peirson (August 16): The spruce mite is generally quite common on ornamental spruce.

South Dakota

H. C. Severin (August 17): The spruce mite is unusually abundant.

TULIP

TULIP SPOT GALL (Thecodiplosis liriodendri O. S.)

Connecticut

W. E. Britton (August 25): Thecodiplosis liriodendri O. S. is reported on tulip trees at Bridgeport and West Haven.

WILLOW

WILLOW CURCULIO (Cryptorhynchus lapathi L.)

Ohio

E. W. Mendenhall (July 3): Mottled willow and poplar borers are quite bad in a block of pussy willow in a nursery in east Dayton. (August 13): The pussy-willow trees in a nursery block at Columbus are badly infested and many of the branches and trees are dead from their attack.

WALNUT SCALE (Aspidiotus juglans-regiae Comst.)

North Dakota

J. A. Munro (May 12): Aspidiotus juglans-regiae Comst. was reported at Guelph, Dickey County. Practically 100 per cent of the willows on the farm were infested. Many of the trees are dying.

INSECTS AFFECTING GREENHOUSE AND
ORIENTAL PLANTS AND LAWNS

MULBERRY WHITEFLY (Tetraleurodes mori Quaint.)

Connecticut

W. E. Britton (August 25): The mulberry whitefly is very abundant on Cornus August 20, at Storrs.

BLACK VINE WEEVIL (Brachyrhinus sulcatus Fab.)

Connecticut

W. E. Britton (August 25): This insect is reported attacking Taxus at Greenwich.

CANNA

LARGER CANNA LEAF ROLLER (Calpodex ethlius Grem.)

South Carolina

P. H. Harrison (August 21): The larger canna leaf roller is very abundant at Fairfax.

CHRYSANTHEMUM

CHRYSANTHEMUM GALL WIDGE (Diarthronomys hibosaea Loew)

Maine

H. B. Peirson (August 16): An outbreak is occurring in Augusta.

CHRYSANTHEMUM LACEBUG (Corythucha marmorata Uhl.)

Mississippi

R. I. Eburne (August 22): Lacebugs, Corythucha marmorata, were reported as causing considerable injury to chrysanthemums at Meridian on August 13.

GREENHOUSE THRIPS (Heliothrips haemorrhoidalis Bouche)

Ohio

E. W. Mendenhall (August 21): The greenhouse thrips is very bad on chrysanthemums and other greenhouse plants at Barberton, Summit County.

ROSE

ROSE STEM SAWFLY (Adirus trimaculatus Say)

Massachusetts

J. V. Schaffner, Jr. (August 5): Quite a severe infestation of this species occurred early in August in the rose garden in one of Boston's parks. Many larvae were removed from the stems, and specimens were sent to Mr. William Middleton for identification.

INSECTS ATTACKING MAN AND
DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Ohio

N. F. Howard (August 12): Until recently mosquitoes were scarce in most sections but about Columbus they are becoming more numerous owing to the fact that they are able to breed in a stream which normally would be flowing rapidly enough to prevent breeding.

Wyoming

A. P. Sturtevant (August 28): Mosquitoes in the vicinity of Laramie have disappeared much earlier than usual.

A GNAT (Hippelates pusio Malloch)

Mississippi

H. Dietrich (August 20): Hippelates pusio Malloch has become extremely abundant and annoying in southern Mississippi. One can not sit down in the shade or out of the wind without the gnats flocking to one's eyes.

MASKED HUNTER (Reduvius personatus L.)

Mississippi

J. E. McEvilly (August 19): A McComb physician reports patients being bitten by Opsicoetus personatus Linne. Bite caused great pain and fever.

HOUSEHOLD AND STORED -

PRODUCT INSECTS

TERMITES (Reticulitermes spp.)

Indiana J. J. Davis (August 19): Termites damaging building at Ladoga, August 12.

Mississippi W. L. Gray (August 16): Termites destroyed some valuable records at the National Box Co. at Natchez. "Contacts" to ground were old concrete forms to base of the vault where records were stored on wooden shelving. Also severe injury to a number of residences in Natchez.

Nebraska M. H. Swenk (July 15 - August 15): Additional termite (Reticulitermes tibialis Banks) infestations were reported from Douglas and Cass Counties during the last half of July. One of these related to the floors in a building, the others to injury to aster, coreopsis and other plants.

POWDER-POST BEETLES (Species of Bostrichidae)

Nebraska M. H. Swenk (July 15 - August 15): A complaint of the destruction of the woodwork in a cellar by powder-post beetles (Bostrichidae) was received from Jefferson County during the last week in July.

ANTS (Formicidae)

Indiana J. J. Davis (August 19): House ants were reported at Elwood, Rockville, and Gary, and lawn ants at Michigan City, South Bend, Mishawaka, and Lowell. At the latter place they were damaging golf greens.

Mississippi C. Hines (August 19): A new infestation of the Argentine ant has been found at Way, Madison County. This insect has apparently been eradicated from the farms near Flora; very scarce in Yazoo City, Canton, Gary, Madison, Flora, and Ridgeland, where poisoning campaigns have been put on two or three years.

R. W. Harned and assistants (August): Several species of ants are unusually troublesome about houses and stores over the greater part of the State.

Arizona C. D. Lebert (August 26): Considerable trouble with many species of ants nesting in lawns, around shrubbery, around edges of swimming pool at Tempe, and in houses.

FIRE BRAT (Thermobia domestica Pack.)

Mississippi

J. E. McEvilly (August 19): Silverfish (Thermobia domestica) have been found present in several homes at McComb damaging wall paper, rugs, books, starched clothing, and wearing apparel.

HOUSE CRICKET (Gryllus domesticus L.)

Massachusetts

J. V. Schaffner, Jr. (July 28): According to reports, these crickets have been abundant in a few houses near the town dump and for the most part these houses are on the same side of the street as the dump. A second species, probably Gryllus assimilis Fab., was also abundant in places along the grass and weeds. Gryllus domesticus is the species which has been abundant in the houses. The main complaint concerns the annoyance caused by their presence, though the residents report some slight damage by feeding on rugs and clothing. According to newspaper reports, an infestation at Swampscott has also been giving considerable trouble.

THE INSECT PEST SURVEY
BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

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UNITED STATES
DEPARTMENT OF AGRICULTURE
AND
THE STATE ENTOMOLOGICAL
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INSECT PEST SURVEY BULLETIN

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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR SEPTEMBER, 1930

Grasshoppers still continue to attract considerable attention throughout the greater part of the country. In many places the damage has even increased over that done in August.

Several species of cutworms are reported from the Rocky Mountain and the West Coast States.

The fall armyworm become generally prevalent over the Middle Atlantic States during the month, attracting unusual attention by attacking lawns in towns and cities.

Damage by white grubs is becoming very evident, as the season advances, in the Central States from Indiana westward to Nebraska, and southward to Missouri.

In this number of the Survey Bulletin is a summary of the survey work on the Hessian fly for the Middle Atlantic, East Central, and West Central States. The Hessian fly situation as a whole is not alarming. From conditions in southern and west-central Illinois and parts of Missouri and Indiana, however, there is reason to believe that unless checked by adverse weather conditions this insect will be decidedly more troublesome next year in this region than it has been in several years.

The cotton leaf worm made one of its very extensive northward flights about the middle of September. The moths were observed in large numbers in southern Missouri on September 14, in southern Illinois on September 15, in the District of Columbia on September 23, in southern Michigan and New York City on September 24, and in Boston, Mass., on September 25.

Codling moth eggs continued hatching during the first two weeks in September in Illinois, Indiana, and Kentucky, and moths were still emerging in central Ohio during the third week of the month.

In the Lake Region of Ohio a late brood of the oriental fruit moth

seriously damaged late varieties of peaches harvested after the middle of September. To the southward, in Indiana, Illinois, and Kentucky, infestation seemed to be much less serious, particularly in apple, and only moderate abundance is reported over the New England and South Atlantic regions.

A green stink bug, Chlorochroa sayi Stal., is recorded from the State of Nebraska for the first time. It was found injuring potatoes in Kimball County.

The imported cabbage worm is very seriously infesting cabbages in Illinois, Iowa, and Minnesota, and rather serious infestations by the cabbage webworm are reported from North Carolina, Alabama, and Mississippi. The cabbage looper is appearing in very considerable numbers over the same region and also northward into Virginia.

The beet leafhopper is abundant in northern Utah and considerable damage is resulting from the infestation.

The fall webworm is occurring very abundantly throughout the eastern States from Vermont southward to Florida and Alabama.

The birch leaf skeletonizer is occurring in a heavy outbreak in northern Maine and the upper and lower peninsulas of Michigan.

The elm leaf beetle is so prevalent in Connecticut that unsprayed trees are brown in many parts of the State, and it is more prevalent at Raleigh, N. C., than it has been during the past fifteen years.

In the drought-affected States mosquitoes are unusually prevalent, perhaps because small streams, having been dried to puddles, afford excellent breeding places.

OUTSTANDING ENTOMOLOGICAL FEATURES IN CANADA FOR AUGUST AND SEPTEMBER, 1930

A correction: The outstanding entomological features in Canada, in the August 1 number of the Insect Pest Survey Bulletin, referred to July, 1930 instead of August, 1930, as published on page 259.

Reports during the past two months indicate a definite upward trend in grasshopper populations extending from southern Quebec, through Ontario and the Prairie Provinces, to British Columbia. With the exception of the Chilcotin ranges, British Columbia, however, grasshoppers, in general, were nowhere sufficiently numerous to cause serious crop damage.

The pale western cutworm continued in severe outbreak form in Saskatchewan, but the outbreaks of the bertha armyworm which developed in 1929, in Manitoba and Alberta, completely subsided, and there was no ~

recurrence of damage this season. In British Columbia, cutworms, generally speaking, were scarcer and less injurious than for many years past.

A rather heavy infestation of the wheat stem sawfly occurred in southwestern Manitoba and locally in eastern Alberta, and serious damage by this species was anticipated in sections of Saskatchewan.

White grubs have been on the increase for several years in sections of southern Quebec, and a heavy flight of the beetles is forecast in 1931. Severe damage to field and garden crops was reported from southeastern Ontario. In British Columbia this pest was about normal.

The diamond-back moth was prevalent in Saskatchewan and Alberta and was extraordinarily abundant and destructive in sections of British Columbia.

The European corn borer infestation in the Maritime Provinces continues very local and light.

Hornworms were more abundant on tomato and tobacco in southwestern Ontario than they have been during the past few years. The ^{cucumber} striped beetle was unusually destructive in New Brunswick.

A species of grain aphid caused much damage to late sown oats in sections of eastern Saskatchewan and locally in western Manitoba. Aphids of many species were unusually abundant in British Columbia this season, but the woolly apple aphid was notably scarce. Reports indicate that in most parts of the Dominion fruit aphids were of comparatively minor importance in 1930. The apple aphid, however, was noted in outbreak numbers in sections of New Brunswick.

The codling moth was reported as unusually injurious in Ontario and the Maritime Provinces. An increase also was noted from southern Vancouver Island. Elsewhere in British Columbia the codling moth was notably scarce.

Fruit injury by the oriental peach moth in southern Ontario is light.

Red spider mites were conspicuously injurious to small fruits in southwestern Ontario and southern Manitoba. Grape and apple leafhoppers increased in abundance in southern Ontario.

A fruit blight, possibly carried by thrips, caused material damage to raspberries and loganberries in coastal sections of British Columbia.

During the past summer in British Columbia, a marked decrease was noted in the abundance of several species of injurious fruit insects including the oyster-shell scale, lesser apple worm, pear slug, peach twig borer, currant fruit fly, and the imported currant worm.

The European beech bark louse has caused the death of many trees on the mainland of Nova Scotia.

The black headed budworm continued to effect material damage on Cape Breton Island, Nova Scotia, and also was reported in outbreak form on the British Columbia coast.

Widespread and heavy infestations of the birch leaf skeletonizer occurred in the Maritime Provinces and southern Quebec.

The fall webworm is present in conspicuous abundance throughout eastern Canada, but has shown a decided decrease in the Lower Fraser Valley, British Columbia.

The maple leaf-cutter occurred in greatly reduced numbers, compared with previous years, in Ontario and southern Quebec.

The hemlock looper outbreak which developed on the watersheds of the Trinity and Pentecote Rivers on the north shore of the St. Lawrence, Quebec, in 1928-29, subsided entirely in 1930.

A survey of the satin moth in the Maritime Provinces revealed several small infestations of the insect in Westmoreland and Albert Counties, New Brunswick, in addition to the one previously reported at Moncton. In Nova Scotia, outbreaks were located at various points between Annapolis and Yarmouth. In British Columbia, this species has continued to spread on Vancouver Island and in the Lower Fraser Valley.

In general, bark beetles have shown a decided increase over large areas in British Columbia, and have been unusually destructive this summer.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- South Carolina F. Sherman (September 19): Several species of grasshoppers, especially Melanoplus femur-rubrum DeG., are very abundant in Saluda County.
- Ohio E. W. Mendenhall (September 11): The grasshopper menace, in Butler County, is pronounced in spite of the drought.
- Illinois J. H. Bigger (September 15): Grasshoppers are very abundant, severely damaging soybeans and corn.
- Michigan R. H. Pettit (September): Grasshoppers are very abundant in the north-central part of the State.
- Minnesota A. G. Rugles and assistants (September): Grasshoppers, though quite generally prevalent throughout the State, are reported as appearing in serious numbers in Blue Earth, Carlton, Mower, Swift, Assenington, and Wilkin Counties only.
- North Dakota J. A. Munro (September 19): Grasshoppers are moderately abundant at Pingree, Stutsman County. Two reports received (August 18 and 20, respectively). Both reports stated that serious injury was being done to alfalfa.
- South Dakota H. C. Severin (September 18): Melanoplus differentialis Thos., M. bivittatus Say, M. femur-rubrum DeG., and M. mexicanus mexicanus Sauss. are very abundant on small grain, flax, corn, garden truck, hedge plants, and trees. Most abundant in northern Tripp, Gregory, Charles Mix, Lyman, Brule, Aurora, and Douglas Counties.
- Iowa H. E. Jaques (September 25): Grasshoppers are moderately to very abundant throughout the State. Especially destructive to young alfalfa, clover, gardens, etc. Several species are involved, M. differentialis Thos. and M. femur-rubrum DeG., predominating.
- Missouri L. Haseman (September 24): Grasshoppers, M. differentialis Thos. and M. femur-rubrum DeG., are very abundant.
- Nebraska M. H. Swenk (August 15-September 1): Grasshoppers continued to be injurious in certain parts of Nebraska. The Boyd County infestation continued to be severe during August. New centers of injury developed in Furnas County and in southern Gage County.
- Colorado C. F. Gillette (September 19): Grasshoppers are very abundant in northeastern Colorado.

- Utah G. F. Knowlton (September 21): Grasshoppers are moderately to very abundant. They seem to be becoming less abundant than they were last month.
- Nevada G. G. Schweis (September 22): Grasshoppers are very abundant in western Nevada. Considerable damage has been done to the second crop of alfalfa.
- Arizona C. D. Lebert (September 25): Grasshoppers are troublesome only in the northern part of the State at the present time. They were eating truck near Prescott, rather voraciously about the 15th of September.
- Oregon D. C. Mote (August): Grasshoppers are very abundant on field crops in Lane County.

CUTWORMS (Noctuidae)

- North Dakota J. A. Munro (September 19): Cutworm injury to flax fields extended through the first week in July at Neche, Pembina County, according to a report received from a farmer of that vicinity. He states that many fields of flax, which had been resown during June on account of previous cutworm injury, had been seriously injured a second time. He estimated that cutworms had caused 50 per cent injury to flax fields in his part of the country. The cutworms were identified as Euxoa ochrogaster Guen.
- Iowa H. E. Jaques (September 25): Ten counties report marked fall activity of cutworms.
- Colorado C. P. Gillette (September 19): Lycophotia margaritosa saucia Hbn. is very abundant and injurious to celery in the Denver area. It is also doing considerable injury to potato vines in parts of the San Luis Valley.
- Nevada
and
California G. G. Schweis (August 19): Species of Prodenia have been reported from a wide area, including many counties in Nevada and eastern California, where they have been reported as doing damage to alfalfa, potatoes, grapes, and other crops.
- California C. E. Fisher (August 27): The yellow-striped armyworm (Prodenia praeficia Grote) has been doing considerable damage to baby lima and blackeye beans in the vicinity of Modesto. Worms first started in alfalfa.
- FALL ARMYWORM (Laphygma frugiperda S. & A.)
- Delaware L. A. Stearns (September 15): The fall armyworm was seriously abundant in certain localities about Felton and Camden, August 20.

aryland

E. N. Cory (September 22): Laphygma frugiperda is present in injurious numbers on lawns in Baltimore, on bent grass in Baltimore County, on barley and wheat for forage in Harford County, on rye in Montgomery County, and on alfalfa and barley in Kent County.

istrict
of
olumbia

U. S. D. A. Press Service (By Dr. W. H. Larrimer) (September 20): The long, dry summer has prevented the growth of succulent grass in pasture lands and as a result hundreds of lawns are now being overrun with these caterpillars, not only in the District of Columbia but throughout nearby States. What is perhaps more serious economically, this caterpillar is destroying fall-sown wheat and other small grains which have been planted for early fall pasture, because the long dry season prevented the usual growth of grass in the pasture lands.

Virginia

G. E. Gould (September 24): The fall armyworm has been exceedingly abundant this year. The present brood of larvae commenced to do noticeable damage early in September and since then reports of damage to many crops have come in from all parts of eastern Virginia. On the Eastern Shore damage was observed to Sudan grass and sorghum. Around Norfolk the larvae have caused damage to rape, kale, broccoli, collards, turnip salad, savoy cabbage, rutabagas, grass, and garden peas. In the northern part of Virginia a field was observed where this insect had destroyed 30 acres of German clover and had done some damage in 50 acres more.

W. J. Schoene (September 17): Reports of serious injury in several counties in eastern and central Virginia have been received. It seems that the insect is generally distributed.

F. N. Darling (September 15): There is an infestation of the armyworm in Northampton County, where much damage is being done.

Evening Star, Washington, D. C. (September 26): The fall armyworm, after campaigning in nearly every other section of the State, has crossed Chesapeake Bay and attacked the crops on the Eastern Shore. G. T. French, State Entomologist, said yesterday the worm has appeared in large numbers in both Accomac and Northampton Counties, and County Agent W. E. Strong of Accomac has written the State Department of Agriculture that "the armyworm is destroying hundreds of acres of our fall hay crops such as rye, wheat, and crimson clover."

1rth Carolina

C. H. Brannon (September 20): This species is continuing widespread damage over the State.

orgia

H. S. Adair (September 25): Larvae were numerous in Albany and other localities in southern Georgia during July

and were observed feeding on grasses and various field crops. Moths emerged the latter part of August from material placed in the insectary and were observed quite numerous in the field during the latter part of August and the first of September.

Florida

J. R. Watson (September 24): The fall armyworm did considerable damage about Raiford in September.

Alabama

J. M. Robinson (September 19): The fall armyworm started its injurious work, but a fungus destroyed a large percentage of the larvae.

Mississippi

R. W. Harned and assistants (September): The southern grass worm has continued to attract considerable attention on corn, cotton, soybeans, and grasses of various kinds during September.

Clay Lyle (September 8): Many fields of hay in Oktibbeha and surrounding counties have been ruined by the southern grass worm during the past week. This seems to be the worst outbreak of the worms since 1912. Where fields of young corn are located near meadows that are being cut, the worms are likely to move into the corn and destroy it quickly.

WIREWORMS (Elateridae)

Pennsylvania

C. A. Thomas (September 22): Potatoes in several fields in Bucks County were badly injured by larvae of Pheletes agonus Say, during September. At least 20 per cent of the tubers were bored into by these wireworms and the growers estimated that they reduced the value of such potatoes by at least 50 per cent.

West Virginia

L. M. Peairs (September 20): Wireworms are injuring potatoes in Wood County.

Iowa

H. E. Jaques (September 25): Wireworms are moderately abundant in several counties in northeastern Iowa.

Nevada

G. G. Schweis (September 22): Wireworms are moderately abundant. Doing considerable damage to potatoes.

WHITE GRUBS (Phyllophaga spp.)

Indiana

J. J. Davis (September 22): Numerous reports of abundance and destructiveness of white grubs have been received from northern Indiana and along the west side, north of about the center. The reports indicate a continued southward spread of this destructive brood of grubs. The majority of inquiries referred to injury to corn, although some referred to serious damage to timothy, blue grass, the turf of golf courses, and strawberries and general crops. The drought conditions intensified injury in some cases.

Illinois

W. P. Flint (September 15): White-grub injury is becoming more apparent with the advance of the season. Damage is showing at the present time in many areas where little injury was noted up to the middle of August. This damage is confined to the northern half of the State.

Iowa

H. E. Jaques (September 25): Most of the counties in the eastern half of the State show moderate to heavy damage to corn, potatoes, and pastures. The insects are only moderately abundant in the northwestern white-grub area.

Missouri

L. Haseman (September 24): White grubs are moderately abundant. Emergence of adult beetles continued later than usual this summer.

Nebraska

M. H. Swenk (August 15-September 1): During the latter part of August the number of complaints of injury by white grubs increased greatly. These all related to the part of the State lying north of the Platte River and east of Holt and Buffalo Counties. The injury was to hay meadows, lawns, cornfields following grass, and strawberry beds.

CEREAL AND FORAGE - CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Pennsylvania

C. C. Hill (August 18): The result of the summer survey for the Hessian fly indicates the following percentages of infestation in the several counties of this State, as follows:

<u>County</u>	<u>Infestation</u> (Per cent).	<u>County</u>	<u>Infestation</u> (Per cent)
Adams	1	Lancaster	1
Bedford	1	Lebanon	1
Berks	2	Lehigh	1
Bucks	5	Lycoming	2
Butler	6	Mercer	10
Center	2	Mifflin	1
Chester	2	Montgomery	8
Clinton	0	Montour	1
Columbia	0	Northampton	1
Cumberland	1	Northumberland	4
Dauphin	0	Perry	0
Franklin	1	Snyder	1
Fulton	2	Union	3
Huntingdon	0	Washington	1
Indiana	6	York	0
Juniata	2		

State average..... 2 per cent

Maryland	<u>County</u>	<u>Infestation</u> (Per cent)	<u>County</u>	<u>Infestation</u> (Per cent)
	Baltimore	1	Frederick	0
	Carroll	1	Montgomery	0
	Cecil	1	Queen Anne	2
	Dorchester	1	Washington	0
	State average.....			1 per cent

Delaware	<u>County</u>	<u>Infestation</u> (Per cent)	
	Kent	4	
	New Castle	0	
	State average.....		2 per cent

West Virginia	<u>County</u>	<u>Infestation</u> (Per cent)	
	Berkeley	1	
	Jefferson	0	
	State average.....		1 per cent

Virginia	<u>County</u>	<u>Infestation</u> (Per cent)	<u>County</u>	<u>Infestation</u> (Per cent)
	Augusta	1	Pulaski	2
	Fauquier	1	Roanoke	3
	Frederick	1	Rockbridge	4
	Hanover	6	Rockingham	2
	Loudoun	1	Shenandoah	1
	Pittsylvania	6	Smyth	0
	State average.....			2 per cent

North Carolina	<u>County</u>	<u>Infestation</u> (Per cent)	
	Guilford	1	
	Mecklenburg	2	
	Wake	2	
	State average.....		2 per cent

Ohio T. H. Parks (September 27): Early sown and volunteer wheat in central and northern Ohio was remarkably free from Hessian-fly eggs during late September. We have not yet visited the heaviest infested area in our State (Butler County) to determine the presence of eggs on the wheat there. It is apparent that the hot, dry weather gave the fly a serious setback.

Illinois

W. P. Flint (August): The annual survey which was carried on by the Natural History Survey and the Bureau of Entomology has been completed. This year the survey covered 57 counties and the infestation is about the same as last year with slight increase of the fly in parts of the State. Dry weather has reduced volunteer wheat and considerably retarded fly development.

<u>County</u>	<u>Average per cent</u> <u>wheat tillers in-</u> <u>festated by the</u> <u>Hessian fly</u>	<u>County</u>	<u>Average per cent</u> <u>wheat tillers in-</u> <u>festated by the</u> <u>Hessian fly</u>
Adams	23.6	Lee	3.5
Brown	25.0	Livingston	.3
Bureau	12.7	Macon	15.3
Cass	10.3	Macoupin	35.0
Champaign	4.1	Madison	24.0
Christian	18.6	Mason	6.0
Clark	16.0	McDonough	11.6
Clinton	24.0	McLean	2.6
Coles	7.0	Menard	7.6
Crawford	44.0	Montgomery	38.0
DeKalb	3.5	Morgan	5.0
DeWitt	.5	Moultrie	5.5
Douglas	9.0	Ogle	5.0
Edgar	6.0	Perry	15.0
Edwards	21.0	Piatt	9.4
Fulton	12.3	Rock Island	6.0
Gallatin	10.0	Saline	8.0
Greene	22.3	Sangamon	13.6
Grundy	1.0	Schuyler	25.3
Hancock	11.6	Scott	14.3
Hamilton	10.0	Shelby	2.5
Henry	4.2	St. Clair	20.0
Iroquois	1.0	Tazewell	5.0
Jackson	5.0	Vermillion	2.0
Jersey	38.0	Warren	8.0
Kankakee	2.0	White	10.0
Knox	4.6	Whiteside	8.6
LaSalle	6.4	Will	1.3
Lawrence	35.0		

State average..... 12.2 per cent

East-central
States

C. M. Packard (July 26): In general, the Hessian fly infestation in the East Central States was too light to affect yields. There does not seem to be much danger of serious infestation this fall in the northern part of this region. The somewhat greater abundance of the fly in the southern part of Ohio, Indiana, and Illinois, and in Kentucky and Tennessee, indicates heavier infestations.

<u>Area</u>	<u>Number of localities</u>	<u>Number of samples</u>	<u>Average per cent of culms and tillers infested</u>
Northern Ohio	4	24	10
Southern Ohio	3	36	18
Northern Indiana	40	71	7
Southern Indiana	19	47	17
Southern Illinois	6	19	47*
Northern Kentucky	2	14	15
Southern Kentucky	1	6	52*
Southern Michigan	11	15	4
Northern Tennessee	2	14	3
Southern Tennessee	4	17	28*

*These averages show the infestations present in seeding-date plots sown in situations particularly favorable to heavy infestation.

West-central States

J. R. Horton (September): In Missouri the average infestations ran below 25 per cent of the stems infested. Only in occasional fields were infestations high enough to affect the yield. In Kansas infestations were quite generally low, averaging but 10 per cent of the stems in the eastern portion and 14 per cent in the western portion of the State. Yields were not measurably affected by the fly except in Hiawatha in the extreme northeast portion and Colby in the extreme northwest portion of the State. On the other hand Nebraska infestations were in general exceptionally high, averaging 41 per cent of the stems infested. For all practical purposes the fly is absent from Oklahoma except in the northeastern portion of the State. The following table gives a summary of the season's survey work:

<u>Region</u>	<u>Number of localities</u>	<u>Number of samples</u>	<u>Average per cent of culms infested</u>
Southern Missouri	10	24	21
Central Missouri	28	49	19
Northwestern Missouri	12	14	14
Southeastern Nebraska	4	20	41
Western Kansas	9	32	14
Eastern Kansas	2	38	10
Northern Oklahoma	5	47	4

Kentucky

W. A. Price (September 24): The Hessian fly is reported in the bluegrass section. Stubble shows 10 and 12 per cent infestation.

Iowa H. E. Jaques (September 25): Ten counties in southwestern Iowa report Hessian flies moderately abundant with a few scattered reports from other parts of the State.

Missouri L. Haseman (September 24): The Hessian fly is moderately abundant; infestations are irregular but situation alarming with early wheat seeded for pasture.

Nebraska M. H. Swenk (September 18): The Hessian fly is moderately abundant in southeastern Nebraska.

WHEAT JOINT WORM (Harmolita tritici Fitch)

Illinois W. P. Flint (August): The annual wheat joint worm survey has been completed. The survey covered 57 counties and gave the following results:

<u>County</u>	<u>Average per cent</u> <u>wheat tillers in-</u> <u>festcd by jointworm</u>	<u>County</u>	<u>Average per cent</u> <u>wheat tillers in-</u> <u>festcd by jointworm</u>
Adams	2.0	Lee	.5
Brown	2.0	Livingston	0
Bureau	20.8	Macon	.6
Cass	.3	Macoupin	.3
Champaign	0	Madison	0
Christian	.3	Mason	0
Clark	.8	McDonough	33.3
Clinton	0	McLean	0
Coles	0	Menard	0
Crawford	.6	Montgomery	.6
DeKalb	0	Morgan	.3
DeWitt	0	Moultrie	0
Douglas	0	Ogle	0
Edgar	0	Perry	1.3
Edwards	4.0	Piatt	.6
Fulton	9.0	Rock Island	8.0
Gallatin	.6	S line	0
Greene	.6	Sangamon	0
Grundy	0	Schuyler	3.0
Hancock	8.3	Scott	.3
Hamilton	2.0	Shelby	0
Henry	14.5	St. Clair	0
Iroquois	0	Tazewell	1.6
Jackson	1.3	Vermilion	0
Jersey	0	Warren	17.0
Monkokee	0	White	2.0
Knox	14.6	Whiteside	9.5
LaSalle	3.4	Will	0
Lawrence	.4		

WHEAT STRAW WORM (Harmolita grandis Riley)

Utah G. F. Knowlton (August 28): The wheat straw worm is very abundant in some wheat fields in northern Utah. Species of Harmolita are also present in barley, oats, and rye, but in much less abundance. (September 21): The wheat worm is quite prevalent in most parts of northern Utah.

CORN

CHINCH BUG (Blissus leucopterus Say)

Indiana J. J. Davis (September 22): The chinch bug is moderately abundant in the extreme northeastern corner of the State.

Illinois W. P. Flint (September 15): Chinch bugs are reported from several counties in the south and west-central parts of the State. The increase in abundance of chinch bugs this year has been extremely rapid. They have probably increased in abundance more rapidly this year than at any time during the last twenty-five years. Unless checked by adverse weather conditions we would expect commercial injury in several counties next season.

Iowa
and
Missouri H. E. Jaques (September 25): Chinch bugs were moderately abundant in Lee County, Iowa, but otherwise practically absent in the State. I found them very abundant in Henry County, Missouri, early in September.

Missouri L. Hoseman (September 24): The chinch bug is moderately to very abundant; very abundant on some farms in central belt across State.

CORN EAR WORM (Heliothis obsoleta Fab.)

Vermont H. L. Bailey (September 23): The corn ear worm is moderately abundant at Montpelier; plentiful in a small cornfield in the city.

Rhode Island A. E. Stene (September 18): The corn ear worm is very abundant.

New Jersey T. J. Headlee (September 9): The corn ear worm is moderately abundant.

Maryland E. N. Cory (September 22): The corn ear worm is very abundant.

West Virginia L. M. Peairs (September 20): The corn ear worm is very abundant in Monongalia County, their work especially noticeable in view of the short crop.

- North Carolina W. A. Thomas (September 11): The larvae are now extremely abundant on late tomatoes and beans at Chadbourn. Some plants were observed today where every tomato fruit had been injured, many of the young fruit buds destroyed, and some stems eaten off. The foliage was also injured by the larvae feeding on leaf and petiole.
- South Carolina P. K. Harrison (September 4): Late corn is quite heavily infested.
- Florida J. R. Watson (September 24): The corn ear worm is feeding extensively on the seeds of beggarweed, and mining the ground cherry, Physalis spp.
- Ohio E. W. Mendenhall (September 23): The corn ear worm is very bad on sweet corn, in most parts of the State. The ravages of this pest are quite marked, destroying a large percentage of the kernels of corn and making the ears unmarketable.
- Illinois W. P. Flint (September 15): This insect increased very rapidly during the last few days of August and the early part of September. Counts made in sweet corn fields on the east side of the State showed from 44 to 57 per cent of the ears infested. Eggs are very common on Indian mallow.
- J. H. Bigger (September 15): The corn ear worm is moderately abundant. Thirty-one per cent infestation in west-central Illinois but moderate damage done.
- Michigan R. H. Pettit (September): The corn ear worm is scarce in general.
- Minnesota A. G. Ruggles and assistants (September): The corn ear worm is generally scarce throughout the State.
- Kentucky W. A. Price (September 24): The corn ear worm was present in 80 out of 100 ears of corn at Springfield.
- Iowa H. E. Jaques (September 25): The corn ear worm is moderately abundant in the western half of the State. Winneshiek, Benton, Mahaska, and Jefferson Counties also report moderate abundance. It is very abundant in Henry County, Missouri, in field corn.
- Missouri L. Haseman (September 24): The corn ear worm is very abundant, in southern Missouri attacking soybean pods.
- Arkansas D. Isely (September 24): Corn ear worms are very abundant. The crops attacked are corn, soybeans, and cotton.
- Mississippi R. W. Harned (September 22): Only two complaints have been received during the past month.

STALK BORER (Papaipema nebris nitela Guen.)

- Indiana J. J. Davis (September 22): The stalk borer has continued to be commonly referred to in correspondence. The first pupa was received September 2 and all received since that date (the last, September 17) were pupae. All reports were of infestation in corn, excepting one received from Otterbein which was in golden glow.
- Michigan R. H. Pettit (September): The stalk borer is very abundant in general.
- Iowa H. E. Jaques (September 25): The stalk borer is moderately abundant in Crawford, Harrison, and Madison Counties.
- Nebraska M. H. Swenk (August 15-September 1): A few reports of cornstalks bored by the common stalk borer received during the last half of August. After August 20 most of the specimens sent were pupae rather than caterpillars. Other reports received add Thurston, Colfax, and Merrick Counties to the list given in my previous report.

SOD WEBWORMS (Crambidae)

- Missouri L. Haseman (September 24): There has been an epidemic of close-wing moths, consisting mostly of some three species, during the last two weeks of September through central Missouri. They are attracted in swarms to light on warm nights.

LESSER CORN STALK BORER (Elasmopalpus lignosellus Zell.)

- Florida J. R. Watson (September 24): The lesser corn stalk borer has been destroying chufas on the State Farm at Raiford.
- Mississippi R. W. Harned (September 22): This insect has attracted considerable attention during the past month in various districts of the State. Specimens collected from cowpea, bean, and lima bean plants have been received from Holmes, Marshall, Tippah, Forrest, and Pike Counties.

A CERAMBYCID (Prionus fissicornis Hald.)

- Nebraska M. H. Swenk (August 15-September 1): A cornfield injured by the larvae of Prionus fissicornis was reported August 25 from Sherman County.

CORN ROOT WORM (Diabrotica longicornis Say)

- West Virginia L. M. Peairs (September 20): Adults are numerous feeding mostly on silks.

Indiana J. J. Davis (September 22): Adults of the northern corn root worm were reported damaging corn at Richmond August 23, but we have no specific information regarding the exact nature of the injury.

Illinois J. H. Bigger (September 15): The northern corn root worm is scarce. It is appearing in smaller numbers than it has in at least five years.

COLORADO CORN ROOT WORM (Diabrotica virgifera Lec.)

Colorado C. P. Gillette (September 19): The Colorado root worm is moderately abundant in northern Colorado and very abundant in some cases where corn followed corn.

SOYBEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Louisiana W. E. Hinds (August 29): This insect is now quite abundant in the district around New Iberia and Jeanerette and ragging of foliage has occurred in some fields. The outbreak is generally some two weeks later than that of 1929 and will be less severe. Moths and larvae occur in some numbers as far north as Baton Rouge, and probably farther than this. The soybean crop is being harvested for hay, or turned under, very generally regardless of worm occurrence, and in the southern section about 80 per cent of the crop is already safe from worm injury. I do not anticipate serious damage to the crop except in late-planted beans.

Oklahoma C. F. Stiles (September 22): This insect and the corn ear worm (Heliothis obsoleta Fab.) have destroyed the soybean seed crop in most districts of Oklahoma. It first attacks the small beans and later the leaves.

ALFALFA AND CLOVER

PEA APHID (Illinoia pisi Kalt.)

Wisconsin J. E. Dudley, Jr. (September 24): Owing largely to parasites, predators, and possibly drought, the pea aphid practically disappeared from fields late in August. Largest array of natural enemies ever observed, Nabis ferus L. being the most prevalent species. During the past 10 days infestation has developed until now from 20 to 50 are secured in 50 sweeps of a net. Accompanying the rise of the aphids, there is a falling off of the number of natural enemies taken.

(Hemiptera)

Arizona

E. A. McGregor (September 1): Examinations of alfalfa fields near Aztec, where the crop is being grown for seed, developed the fact that the seed yield is being materially reduced through the activities of bugs, of which the following were the more common: Lygus elisus Van D., Ceresa occidentalis Funkh., Chlorochroa sayi Stal., and Geocoris punctipes Say.

A THRIPS (Microthrips piercei Morg.)

Arizona

E. A. McGregor (September 1): A thrips (probably Microthrips piercei) was exceedingly abundant in the alfalfa flowers at Aztec.

CRICKETS (Gryllus assimilis Fab.)

Mississippi

R. W. Harned (September 22): Crickets were received from a correspondent at Greenville, on September 18. He reported that these insects appeared there in great numbers on the night of September 16. One farmer reported that they were eating alfalfa and another that these crickets were almost as abundant as the alfalfa seed that he was sowing.

FRUIT INSECTS

COTTON LEAF WORM (Alabama argillacea Hbn.)

Massachusetts

J. V. Schaffner, jr. (September 26): A heavy flight of this species arrived in Lowell last evening (September 25) according to a report accompanied by specimens received today.

New York

G. N. Wolcott (September 25): This is to report the appearance of large numbers of moths of the cotton caterpillar, on the warm and rainy night of September 24 at Barnveld.

District
of
Columbia

G. Myers (September 24): The cotton leaf worm was observed in great numbers on the buildings and lamp posts in Washington on the morning of September 24.

Ohio

T. H. Parks (September 27): These moths have appeared in the Lake Erie peach section and have been puncturing the skin of ripening peaches. The injury is not so serious as during some years.

Illinois

S. C. Chandler (September 15): The cotton leaf worm is found very scarce in the cottonfields of Pulaski and Alexander Counties.

W. P. Flint (September 13): There is report of a heavy flight of the cotton leaf caterpillar in southern Illinois on the night of September 15.

Michigan R. H. Pettit (September 25): On the 24th of September a specimen of the Alabama moth was sent in from Kalamazoo. This is evidently the first record for Michigan in 1930.

Missouri L. Haseman (September 24): During August and September cotton fields in the cotton-growing counties of southeastern Missouri were seriously damaged by the cotton leaf worm. On September 14 moths were taken in considerable numbers for the first time this year at Columbia in codling-moth bait pans.

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts A. I. Bourne (September 23): The codling moth is moderately to very abundant. There are a considerable number of late-season stings. The second brood this year was larger than normal.

North Carolina C. H. Brannon (September 3): Damage to apples in the mountains is exceptionally light this season.

Ohio T. H. Parks (September 27): This insect is much more serious than usual in our State. Lawrence County has suffered most and in this county a third brood of codling moth larvae developed this year and damaged the fruit since August 20. Moths are still emerging and a spray program carrying three cover sprays following the calyx application did not prove effective in controlling the insect. Elsewhere in the State the insect is under control but has increased rapidly.

Indiana J. J. Davis (September 22): The codling moth problem is a serious one in southern Indiana.

F. H. Lathrop (September 15): In laboratory studies including large numbers of codling moths, the emergence of moths declined sharply during the first week in September, showing that the larvae are going into winter quarters. This is confirmed by field observations. Nevertheless, considerable numbers of newly hatched larvae are still entering the fruit in the orchards about Vincennes at this date.

Illinois W. P. Flint (September 15): Eggs have been hatching during the first two weeks of September. Many apple orchards are showing an unusual amount of damage from very late worms.

S. C. Chandler (September 15): There has been a general heavy hatch of codling-moth worms in the orchards of southern Illinois beginning about the 1st of September. Entrances were especially noticeable by September 7.

W. P. Flint (September 18): On September 2, Mr. Sazama examined a number of bands that had been on apple trees for ten days in one orchard at Parkersburg. A count revealed 700 larvae and only one pupa, indicating that the worms are going into hibernation. Newly hatched larvae were entering the fruit in numbers.

Kentucky

W. A. Price (September 24): Observations of the codling moth at Henderson indicate a decline in emergence of adults since September 1. Numbers of new entrances were observed on apples September 17, indicating that moths are still plentiful in some orchards.

Missouri

R. M. Jones (September 17): Well sprayed orchards are relatively free of worms in southwestern Missouri. Other orchards show moderate to serious infestations, depending upon thoroughness and timeliness of sprays.

L. Haseman (September 24): Late worms are very abundant. In northern Missouri we have had three broods this year with the third-brood worms very abundant.

Kansas

P. M. Gilmer (September 19): There has been rather severe late injury from codling moth in the southern section of the State during the first half of September. Part of this is without question due to a small fourth brood.

Arkansas

D. Isely (September 24): The codling moth is very abundant in northwestern Arkansas.

Alabama

O. I. Snapp (September 18): The infestation is heavy at Fort Payne.

Nevada

G. G. Schweis (September 22): The codling moth is reported on unsprayed fruit, 90 per cent wormy.

Washington

E. J. Newcomer (September 22): Owing to cooler weather in June and September, the codling moth infestation is not so severe this season as it was last year.

Oregon

D. C. Mote (July): The first generation of codling moths is about over at Corvallis. Pupae of the second generation appearing (August): The codling moth is moderately abundant in the Willamette Valley. Peak of second brood just passed.

EASTERN TENT CATERPILLAR (Malacosoma americana Fab.)

Connecticut

W. E. Britton (September 24): The eastern tent caterpillar is scarce.

Delaware

L. A. Stearns (September 15): In New Castle County the tent caterpillar was very abundant, during late August and

early September, on practically all shrubs which they commonly infest.

Oregon

B. G. Thompson (July): The tent caterpillar adults are very abundant in the Willamette Valley.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Ohio

T. H. Parks (September 27): The apple maggot was not so serious as last year in northern Ohio where it was an economic pest in 1928 and 1929. Emergence of flies in considerable numbers occurred between July 20 and August 9 as determined by R. W. Dean, who is investigating this insect. Two special sprays were advised during this period. In the test orchards the apple maggot seems to be well under control at this writing, owing apparently both to the spraying and to the adverse weather of the season. In a few unsprayed orchards the insect is still serious. No complaints have reached us from localities other than northern Ohio.

JAPANESE BEETLE (Popillia japonica Newm.)

Rhode Island

U. S. D. A. Press Service (September 18): During the present summer, surveys have resulted not only in confirming the continuation of the infestation at Providence but in the discovery of additional beetles at Newport and Westerly.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Ohio

T. H. Parks (September 27): Following the serious drought of midsummer, shot-hole borers are more numerous than usual in peach, cherry, and even apple trees. In Lorain County, the beetles were emerging during August from a brush pile containing prunings of the orchard and were damaging the near-by young apple trees.

OYSTER-SHELL SCALE (Lepidosaphes ulmi L.)

Minnesota

A. G. Ruggles and assistants (September): The oyster-shell scale is quite generally abundant over the southern half of the State.

Michigan

R. H. Pettit (September): The oyster-shell scale is moderately abundant in general.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

Ohio

T. H. Parks (September 27): The European red mite is not a very serious pest in northern Ohio this year. Well sprayed orchards are remarkably free from this mite.

PEACH

PEACH BORER (Aegeria exitiosa Say)

A correction: "(July 12)" should be inserted after "recorded today" in the second line of the note by O. I. Snapp on the peach borer in the Insect Pest Survey Bulletin, Vol. 10, No. 6, page 279.

Georgia

C. H. Alden (September 20): The peach borer is moderately abundant. Moths are out and are ovipositing.

O. I. Snapp (September 20): Oviposition in the fields and insectary is heavy. One female has deposited over 900 eggs.

Indiana

J. J. Davis (September 22): The peach-tree borer was reported from Walkertown and Ligonier during the month.

Illinois

S. C. Chandler (September 15): Infestation has evidently not been decreased to any extent by the extremes of heat of the past summer. A recent survey in southern Illinois peach sections showed from 50 to 90 per cent of the trees not treated in the past two years to be wormy. By September 2 84 per cent of the old worms had emerged, 13 per cent were in the pupal stage, and only 3 per cent were still in the larval stage. We are recommending treatment by September 20 in this section, this year, which is a little earlier than usual.

Michigan

R. H. Pettit (September): The peach borer is very abundant in general.

Missouri

L. Haseman (September 24): The peach borer is moderately abundant. In central Missouri borers are quite abundant.

Mississippi

R. W. Harned and assistants (September): This insect is quite generally reported throughout the State and is very abundant at Meridian and Agricola.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Virginia

G. E. Gould (September 24): The oriental fruit moth is moderately abundant.

Ohio

T. H. Parks (September 27): While the infestation in the Elberta peaches was very light, there has developed a late brood which seriously damaged late varieties harvested after the middle of September. This statement applies to counties joining Lake Erie, as the crop in all other counties was killed by severe winter temperature.

- diana F. H. Lathrop (September 15): Since August 15, the numbers of oriental fruit moths in peach orchards of Wm. Vincennes have steadily declined. Since September 1 it has been difficult to find infested twigs. Infestation does not seem to be a serious factor in apple orchards of this section this season.
- ntucky W. A. Price (September 24): Infestation in apples does not seem to be severe in the orchards observed in western Kentucky. However, a quince tree observed at Henderson bearing about 1 bushel of fruit was heavily infested.
- nnecticut P. Garman (September 24): The oriental fruit moth is reported in Hartford, New Haven, and New London Counties. Quinces in general, although wormy, show improvement over last year.
- ode Island A. E. Stene (September 18): The oriental fruit moth is moderately abundant.
- ryland E. N. Cory (August 16): The oriental fruit moth is moderately abundant.
- st Virginia L. M. Peairs (September 20): The oriental fruit moth is moderately abundant in the eastern panhandle; distinctly less numerous than in 1929.
- uth Carolina A. Lutken (September 19): The oriental fruit moth is moderately abundant in the northwestern part of the State.
- orgia O. I. Snapp (September 17): Quince fruit in a dwelling is now heavily infested. This insect causes little damage at Fort Valley in orchards where no fruit is available after the harvest of Alberta peaches.
- J. A. Alden (September 20): The oriental fruit moth is scarce.
- linois S. C. Chandler (September 15): In the peach sections from Centralia south there have been no new entrances into peach twigs for a month and scarcely any for two months. Apples in interplanted orchards or close to peach have shown either very light or no infestation. Parasitism was not over 20 per cent. It is thought that the extreme heat of summer has aided in the reduction which has evidently occurred. To date no live larvae can be found cocooned on peach trees.
- higan R. H. Pettit (September): The oriental fruit moth is moderately abundant in the southeastern part of the State; not spreading so rapidly as expected.

Alabama

J. M. Robinson (September 19): The oriental fruit moth is moderately abundant at Auburn.

Mississippi

R. W. Harned and assistants (September): The oriental fruit moth was reported from Calhoun City, Houston, Yazoo City, Corinth, Kosciusko, Meridian, and at points in De Soto, Tate, Quitman, Panola, Yalobusha, Grenada, and Montgomery Counties.

R. W. Harned (September 22): Specimens tentatively identified as larvae of the oriental fruit moth were collected in peaches at Gulfport, on September 2 and in pears at Merrill on the same date.

PLUM CURCULIO (Conotrachelus nemophar Hbst.)

Georgia

O. I. Snapp (September 11): Only three adults were captured during jarring on three one-half days in a number of peach orchards at Fort Valley. This insect has either left peach orchards for hibernation or the population is very light. We are expecting the adult carry-over to be less than usual. (September 26): Frequent jarrings in a number of peach orchards since September 9 have netted a total of only 9 adults. Evidently they left peach orchards in this locality unusually early for places of hibernation.

Michigan

R. H. Pettit (September): The plum curculio is very abundant in general.

Minnesota

A. G. Ruggles and assistants (September): The plum curculio seems to be quite generally scarce over the State, only one County (Lyon) reporting it as very abundant.

Missouri

L. Haseman (September 24): Picked apples show their usual abundance of stings by the plum curculio.

Mississippi

R. W. Harned and assistants (September): The plum curculio is generally reported as scarce throughout the State.

PEAR

PEAR LEAF BLISTER MITE(Eriophyes pyri Pgst.)

Utah

G. F. Knowlton (September 21): The pear leaf blister mite has been causing some damage at Roosevelt. The infestation on some trees is very heavy.

CHERRY

CHERRY FRUIT FLY (Rhagoletis cingulata Loew.)

Oregon

S. C. Jones (July): The cherry fruit fly reached the peak of emergence at Eugene about June 28 and at Eola and Hillcrest in the Amity section about July 14. The last flies were found in the Eugene section on July 9 and in the Amity section on July 20. Maggots appeared in cherries at Eugene on July 1. Mature maggots were found at Macleay (Marion County) about July 18. A few of the maggots had dropped to the ground at that time.

D. C. Mote (August): Adults were still being found in the field in numbers August 20, as reported by S. C. Jones.

PLUM

PLUM GOUGER (Anthonomus scutellaris Lec.)

North Dakota

J. A. Munro (September 19): Specimens of plums showing injury by the plum gouger were received from Haynes, Adams County, on September 10. The sender stated that this is the first year plums have been injured in this way in his locality.

RED SPIDER (Tetranychus telarius L.)

Oregon

O. T. McWhorter (July): The red spider is very abundant on prunes and cherries in the Milton-Freewater district, and moderately abundant on prunes in the Forest Grove and Salem district.

A MITE (Eriophyes sp.)

Oregon

O. T. McWhorter (July): The rust mite (not yet determined) is very abundant on prunes in the Milton-Freewater district.

BLACKBERRY

A MITE (Eriophyes gracilis Nalepa)

Oregon

D. C. Mote (August): Serious infestation on both Himalaya and Oregon Evergreen blackberries occurs in western Oregon apparently caused by the blackberry mite, Eriophyes gracilis Nalepa. Reported by J. Wilcox.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

- Maryland W. S. Abbott (September 15): The grape leafhopper is very abundant on grape foliage at the insecticide testing laboratory.
- West Virginia L. M. Peairs (September 20): The grape leafhopper is extremely numerous. Along with the drought it has nearly defoliated the grapevines.
- Ohio T. H. Parks (September 27): E. comes Say and E. tricineta Fitch are present in the usual numbers and some vineyards suffered a rather heavy infestation; others are almost free from attack.

GRAPE BERRY MOTH (Polychrosis viteana Clem.)

- Ohio T. H. Parks (September 27): Berry-moth injury is present in the grape belt of northern Ohio, but it is not so serious as it was one year ago. Encouraging results were secured by growers who sprayed against the first brood during June.

PECAN

AN APHID (Myzocallis fumipennellus Fitch)

- Georgia H. S. Adair (September 25): The black pecan aphid began to appear in some pecan orchards in this locality (Albany) in injurious numbers the latter part of August. Although the infestation is not so extensive as last year it has done considerable damage by causing the defoliation of pecan trees.
- Alabama J. M. Robinson (September 19): The black pecan aphid is abundant on pecan foliage at Tuscaloosa, Camp Hill, and Auburn.
- Mississippi R. W. Harned and assistants (September): The black aphid is showing up in numbers on pecan at Lucedale and is scarce at Ocean Springs.

HICKORY SHUCK WORM (Laspeyresia caryana Fitch)

- Mississippi R. W. Harned and assistants (September): The pecan shuckworm is scarce at Ocean Springs and moderately abundant in east Jackson County.

CIGAR CASE BEARER (Coleophora fletcherella Fern.)

- Mississippi R. W. Harned and assistants (September): The cigar case bearer is scarce at Ocean Springs and very abundant in the vicinity of Pascagoula.

PECAN CASE BEARER (Acrobasis juglandis LeB.)

Mississippi

R. W. Harned and assistants (September): The pecan leaf case bearer is moderately abundant at Ocean Springs. Infestation is approximately normal in those pecan orchards that were examined in Stone County.

RED-SHOULDERED SHOT-HOLE BORER (Xylobiops basilaris Say)

Mississippi

R. W. Harned and assistants (September): Abundant in nursery pecan trees killed by cold last winter at Merrill.

PECAN WEEVIL (Balaninus caryae Horn)

Alabama

J. M. Robinson (September 19): The pecan weevil is very abundant in large pecan groves at Camp Hill.

WALNUT

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Georgia

H. S. Adair (September 25): The walnut caterpillar has been observed doing some damage to pecan trees in this locality (Albany) during the past few weeks.

Florida

J. R. Watson (September 24): The walnut defoliator continues to be abundant.

Mississippi

R. W. Harned and assistants (September): Several colonies of the walnut caterpillar were observed in one pecan orchard. The larvae were in their second instar. Several clusters of eggs were examined and it was found that the hatch was 100 per cent. A heavier infestation may be anticipated next year, since the parasitism seems to be low. The walnut caterpillar has been practically absent from the pecan orchards in southern Mississippi ever since the heavy infestation in 1927. That year, it will be remembered, we had three distinct generations. The egg parasitism of the third generation averaged 92.3 per cent. Since that time only an occasional colony has been found.

Alabama

J. M. Robinson (September 19): The walnut datana is active and moderately abundant on pecans at Auburn and Camp Hill.

AN APHID (Callipterus juglandis Frisch)

Oregon

B. G. Thompson (July): European walnut aphids are showing up more numerous than in June but not so numerous as last year.

HAZELNUT

A LOOPER (Lepidoptera)

Oregon

D. C. Mote (August): A looper very much resembling

Ellopia somnaria Hbst. has been taken in several localities in western Oregon in considerable numbers on cultivated filberts and wild hazelnuts, as reported by B. G. Thompson.

CITRUS

ORANGE THRIPS (Scirtothrips citri Moulton)

Arizona E. A. McGregor (September 1): In the grapefruit districts of Arizona (Yuma, Phoenix, Mesa) injury by the citrus thrips has been very severe. A considerable percentage both of grapefruit and navel oranges in the above localities have been materially lowered in grade this year, as the result of the work of the thrips.

Arizona C. D. Lebert (September 25): Considerable injury in the nature of fruit scar is showing up. In many cases the citrus fruit has been scarred severely.

California E. A. McGregor (September 1): With the exception of a few points in certain hot interior districts, the occurrence of the citrus thrips has been unusually light this season in southern California.

CLOUDY-WINGED WHITEFLY (Dialeurodes citrifolii Morg.)

Florida G. B. Merrill (September 27): The cloudy-winged whitefly is moderately abundant at Citra, Gainesville, Earlton, and south. It is only during the past few years that this species of whitefly has been found so far north in Florida.

SOFT SCALE (Coccus hesperidum L.)

Mississippi R. W. Harned and assistants (September): This scale is very abundant on satsuma oranges at Agricola and on ornamental plants at Corinth. It is generally scarce in the Gulfport-Ocean Springs district.

PURPLE MITE (Paratetranychus citri McG.)

California E. A. McGregor (September 1): The examination of 37 orange groves in five counties of southern California has brought to light the fact that the citrus mite during the month of August was reduced by natural causes to the lightest infestation of which we have ever been aware. Only 7 mites were obtained from 740 orange twigs (units) in these 37 scattered groves.

TRUCK - C R O P I N S E C T S

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi

R. P. Colmer (September 20): Reports of moderate injury to turnips around Pascagoula and Moss Point have been received.

PARSLEY STALK WEEVIL (Listronotus latiusculus Boh.)

Illinois

J. H. Bigger (September 15): The carrot weevil is abundant in certain districts in western Illinois where it is increasing in importance. It destroyed nearly the entire crop of early carrots.

BLISTER BEETLE (Meloidae)

Ryland

E. M. Cory (August 16): Epicauta marginata Fab. and E. vittata Fab. are abundant on both the Eastern and Western Shores on potatoes, tomatoes, Swiss chard, beets, and various flowers.

io

E. W. Mendenhall (September 3): E. pennsylvanica DeG. is very destructive to dahlia and gladiolus flowers at Sidney.

diana

J. J. Davis (September 22): E. pennsylvanica DeG. damaged potatoes at Lafayette according to a report received August 29.

wa

H. E. Jaques (September 25): The black blister beetle (E. pennsylvanica DeG.) is very abundant in Henry County on asters and garden plants.

STRIPED FLEA BEETLE (Phyllotreta vittata Fab.)

North Carolina

W. A. Thomas (September 11): There has been considerable complaint in this section (Chadbourn) recently of serious flea beetle injury to young turnips. Observations within the past few days show that this insect is causing a great amount of damage to practically all cruciferous plants. The plants are most frequently destroyed just after coming up.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

California

J. C. Elmore (September 26): This insect was first discovered in California in 1926 or 1927 near San Diego. It has gradually spread north but has not become numerous until this year. Near San Juan Capistrano it became very numerous by September 1 and was doing very noticeable damage to eggplant and peppers. Cucumbers having been through harvest and fields plowed under at this time.

POTATO AND TOMATO

POTATO LEAFHOPPER (Empoasca fabae Harr.)

Vermont

H. L. Bailey (September 23): The potato leafhopper is moderately abundant throughout the State but is more plentiful in the southern and western sections.

South Carolina

W. J. Reid, Jr. (September 24): The potato leafhopper is very abundant on fall potato plantings and fall snap beans in the Charleston area. The insect is present in greater numbers than observed in this section in any previous season. A 5-acre field on one farm is suffering severely from an attack. Frequent rains have rendered control measures ineffective. The adult stage of the insect greatly predominates in numbers in the fields at this date. Temperatures have been too high for rapid potato growth. The insect is much less abundant on the beans than on the potato plantings. Damage to the bean plants does not at the present appear to be serious.

Ohio

T. H. Parks (September 27): The potato leafhopper is more abundant than one year ago, but not so numerous as it was during the serious epidemic between 1919 and 1923.

Indiana

J. J. Davis (September 22): The potato leafhopper was responsible for serious hopperburn of potatoes at Elkhart and Lafayette. Injury was especially noticeable early in September.

Minnesota

A. G. Ruggles and assistants (September): The potato leafhopper is reported as very abundant in Fillmore County and doing much damage in Carlton County. It appears to be moderately abundant over the remainder of the State.

Iowa

H. E. Jaques (September 25): The potato leafhopper is infesting late potatoes in scattered localities.

A STINK BUG (Chlorochroa sayi Stal.)

Nebraska

M. H. Swenk (August 15 - September 1): During the third week in August Professor D. B. Whelan found this penatomid injuring potatoes in Kimball County, this being the first record for the species in the State.

TOBACCO WORM (Protoparce quinquemaculata Haw.)

Illinois

W. F. Flint (September 15): This insect is much more abundant than usual in this section (Champaign County).

TOMATO WORM (Protoparce sexta Johan.)

Alabama

J. M. Robinson (September 19): The sphingid larvae (southern tobacco worm) are abundant on tomatoes and tomato foliage in Auburn and Lee Counties.

POTATO TUBER WORM (Phthorimaea operculella Zell.)

North Carolina

C. H. Brannon (September 25): Potatoes sent in from Craven County heavily infested.

Indiana

J. J. Davis (September 22): "Infested potatoes were received August 26, our correspondent advising us they were purchased at Fort Wayne, having been shipped there from some point in Virginia. "We have a customer in our city who purchased homegrown potatoes near New Haven, Ind., that had the same infestation, therefore we believe that you will find this same trouble right in our home State" the dealer said.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

Iowa

H. E. Jaques (September 25): The potato flea beetle is very abundant in Crawford County.

RING-LEGGED EARWIG (Anisolabis annulipes Lucas)

Mississippi

H. Dietrich (September 20): Earwigs are very abundant in stored Irish potatoes and eating out the tubers at Lucedale.

CABBAGE

IMPORTED CABBAGE WORM (Pieris rapae L.)

Illinois

J. H. Digger (September 15): The imported cabbage worm is very abundant, and late cabbage being destroyed wholesale.

Minnesota

A. G. Ruggles and assistants (September): The imported cabbage worm is reported as very abundant in Blue Earth, Winona, Rice, Mower, and Lyon Counties and in parts of Carlton County. Over the remainder of the State it is relatively unimportant.

Iowa

H. E. Jaques (September 25): The imported cabbage worm is very abundant in northern and western Iowa.

Missouri

L. Haseman (September 24): The imported cabbage worm has been only moderately abundant since August.

Utah

G. F. Knowlton (September 19): Larvae and adults are abundant at Lehi and Provo.

SOUTHERN CABBAGE WORM (Pieris protodice B. & L.)

Alabama

J. M. Robinson (September 19): The southern cabbage worm is abundant.

Mississippi

R. W. Harned (September 22): Larvae were found seriously injuring mustard plants at Plantersville, on September 12.

CABBAGE WEBWORM (Heliula undalis Fab.)

North Carolina and South Carolina W. A. Thomas (September 10): A very serious outbreak has occurred in many districts of the two Carolinas during the past three weeks. Most of the fall turnips in many localities have been completely destroyed. Some local growers are now planting for the eighth time because of this insect.

Alabama J. M. Robinson (September 19): The turnip webworm is moderately abundant at Auburn, Tuscaloosa, Crossville, and Andalusia; very active on turnips; larvae present in all stages.

Mississippi H. Dietrich (September 20): The imported cabbage webworm is showing up in considerable numbers on fall plantings of turnips.

CABBAGE LOOPER (Autographa brassicae Riley)

Virginia G. E. Gould (September 24): Cabbage loopers are doing considerable damage to many of the fall crops. All of the cruciferous crops, such as Savoy cabbage, kale, broccoli, rape, collards, and rutabagas, show severe injury due to this insect as well as the diamond-back moth Plutella maculipennis Curt. and the fall armyworm Laphygma frugiperda S. & A. A 7-acre field of garden peas was practically destroyed by the loopers and fall armyworms. Damage is also reported on snap beans.

Alabama J. M. Robinson (September 19): The cabbage looper is abundant on turnips and cabbage at Auburn.

Mississippi R. W. Harned (September 22): Several complaints in regard to serious injury to turnips, collards, and closely related plants have been received at this office during the past week.

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Michigan R. H. Pettit (September): False cabbage aphids are very abundant in general on cabbage and on radish grown for seed in Antrim and Charlevoix Counties.

HARLEQUIN BUG (Murgantia histrionica Hahn)

South Carolina Alfred Lutken (September 19): The harlequin bug is very abundant in general.

Missouri L. Haseman (September 24): Late cabbage and turnips in places in southern Missouri have been seriously damaged during the month.

Mississippi R. W. Harned (September 22): Harlequin cabbage bugs were reported as abundant on collards at Columbus, on September 4.

R. W. Harned and assistants (September): Reported as very abundant at Corinth, McComb, and Meridian, and at several points in George, Greene, and Perry Counties.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

- Connecticut W. E. Britton (September 24): This insect is now distributed throughout the State. In certain fields considerable injury has been done.
- Maryland E. N. Cory (August 16): The Mexican bean beetle is scarce.
- Virginia G. E. Gould (September 24): The Mexican bean beetle is not so abundant as last year at this time. During September feeding of the beetles and larvae has become more noticeable, but very little damage has been reported.
- Virginia and West Virginia Oliver I. Snapp (September 1): ^{Va.} The Mexican bean beetle is much less abundant at Winchester, and Yellow Springs, W. Va., than it was in 1928 and in 1929. Undoubtedly the dry season has contributed to the reduced infestation.
- West Virginia L. M. Peairs (September 20): The Mexican bean beetle is scarce to moderately abundant in localities reporting it but is increasing.
- Mississippi R. W. Harned and assistants (September): The Mexican bean beetle is unusually scarce throughout the State this year.
- Georgia C. H. Alden (September 20): The Mexican bean beetle is scarce. Few on late beans.
- Alabama J. M. Robinson (September 19): The Mexican bean beetle is scarce at Auburn.
- Illinois S. C. Chandler (September 15): A survey of the green-bean trucking area in Union and Pulaski Counties has failed to show the presence of any Mexican bean beetles.
- Michigan R. H. Pettit (September): The Mexican bean beetle is scarce in the southeastern part of the State.
- Nebraska M. H. Swenk (August 15-September 1): Survey work done by Prof. Don B. Whelan during the latter half of August shows bean fields infested not only south of Lyman and south and east of Morrill, but also north of Morrill and in the vicinity of Gering. This latter infestation is farther east than any previously reported in the State.

Colorado

C. P. Gillette (September 19): The Mexican bean beetle is moderately abundant in general.

A BEETLE (Anthicus californicus Laf.)

Ohio

T. H. Parks (September 27): This beetle was collected early in August in Huron County, where approximately 10 per cent of the stalks of navy beans was partially severed about 1 inch above the ground. The field was visited September 25 and at that time the beetles had disappeared, but evidence of their work remained. The county agent and owner could assign no other reason for this injury and while they were not observed in the act of feeding, the beetles were invariably taken in numbers in the soil at the base of the damaged plants.

CUCUMBERS

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

West Virginia

L. M. Peairs (September 20): Injuring blossoms of squashes and cucumbers quite seriously in small patches.

Florida

J. R. Watson (September 24): Very injurious to beans, mustard, and other plants.

Ohio

E. W. Mendenhall (September 3): Beetles are very destructive on cucumber vines and dahlia flowers.

Missouri

L. Haseman (September 24): I have never seen Diabrotica 12-punctata so abundant.

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

West Virginia

L. M. Peairs (September 20): Very abundant in Monongalia County.

Ohio

T. H. Parks (September 27): This insect was much more abundant than usual this year in both cucumber and melon plants. The Weller Canning Company, located at Oak Harbor, distributed 27 tons of calcium arsenate and gypsum mixture among their pickle grovers with excellent results against the beetle. Similar results were obtained by the Crampton Canning Company at Celina.

Illinois

J. H. Bigger (September 15): Very abundant; large numbers of adults preparing to hibernate.

Iowa

H. E. Jaques (September 25): Moderately abundant in pickle and melon patches in southeastern and northeastern counties.

Missouri

L. Haseman (September 24): Very abundant. I have never seen them so abundant.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

gon

D. C. Mote (August): B. G. Thompson reports that this insect is not so serious as it has been in past years. In some sections a considerable number are found parasitized by a dipterous parasite.

SQUASH

SQUASH BUG (Anasa tristis DeG.)

ssouri

L. Haseman (September 24): The squash bug has been very abundant in melon, squash, and pumpkin fields in central Missouri. On September 20 the majority of the bugs were in the late nymphal stage with many adults and comparatively few of the younger nymphs.

h

G. F. Knowlton (September 21): Squash bugs have caused considerable injury to squash plants in northern Utah during the past summer.

PICKLE WORM (Diaphania nitidalis Stoll)

t Virginia

L. M. Peairs (September 20): The pickle worm is damaging summer squash in Monongalia County.

th Carolina

W. J. Reid, Jr. (September 25): The pickle worm has appeared in large numbers on fall squash plantings. The blossoms and young fruit are being attacked. A 12-acre field on one farm shows an infestation of 75 per cent at present. Frequent rains have made attempts at control ineffective.

TURNIP

FALSE CHINCH BUG (Nysius ericae Schill.)

th Carolina

C. H. Brannon (September 23): The false chinch bug is causing damage to turnips in Moore and Wilson Counties.

h Carolina

P. K. Harrison (September 18): The false chinch bug is attacking 150 acres of turnip, two 4-acre fields and one 1-acre field severely at Fairfax.

BEETS

BEET LEAFHOPPER (Eutettix tenellus Baker)

ca

G. F. Knowlton (September 21): The beet leafhopper is abundant in northern Utah, and considerable damage is resulting

to the sugar-beet crop in most beet-growing areas. The damage is not uniform, however, as some acres are suffering only moderate injury, while others are quite seriously affected.

MUSHROOM

SPRINGTAILS (Collembola)

Pennsylvania C. A. Thomas (September 22): Springtails (Achorutes armatum Nic.) and (Lepidocyrtus cyaneus Tullb.) have caused considerable injury to growing spawn in mushroom houses in Chester County this fall.

SUGARCANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana W. E. Hinds (August 29): The sugarcane borer is unusually scarce. No field has been found with more than 10 per cent of stalks now showing borer burrows. Conditions of general infestation will average only about 2 per cent of stalks bored in fields examined August 25 to 28. Borer eggs are very difficult to find and nearly all ^{found} were parasitized by Trichogramma.

F O R E S T A N D S H A D E - T R E E I N S E C T S

A CICADA (Tibicen davisi Sm. & Grsb.)

A correction: The nymphs attacking Asparagus plumosus at Jupiter, Fla., were incorrectly associated with the adults of Diceroprocta viridifascia Walk. (Insect Pest Survey Bulletin, Vol. 10, p. 309). Adults of Tibicen davisi emerged in numbers during early September. Nymphs and nymphal shells were determined as this genus by W. T. Davis.

Florida J. R. Watson (September 24): The females of Tibicen davisi have been emerging in large numbers in the "ferneries" in Jupiter, and are depositing eggs in the timbers and laths of the "shade."

FALL WEBWORM (Hymphantria cunea Drury)

Vermont H. L. Bailey (September 23): The fall webworm was generally abundant throughout the State.

Connecticut M. P. Zappe (September 24): Nests are very abundant in the eastern part of the State, much more abundant than in the central or western parts of the State.

ode Island

A. E. Stene (September 18): The fall webworm is very abundant along the roadsides.

elaware

L. A. Stearns (September 15): In New Castle County, during late August and early September, the fall webworm was very abundant on practically all shrubs which they commonly infest.

aryland

E. N. Cory (August 16): Fall webworms are extremely abundant in Baltimore, Harford, and Cecil Counties at present, feeding on wild cherry, walnut, persimmon, and sumac.

ennsylvania

C. A. Thomas (September 22): Fall webworms have been very common in Chester County during August and September, and their webs are to be seen everywhere on wild cherry, walnut, pear, sycamore, apple, and numerous other trees.

uth Carolina

P. K. Harrison (September 18): The fall webworm is attacking foliage of persimmon and pecan, at Fairfax.

lorida

J. R. Watson (September 24): The fall webworm continues to be abundant. The infestation in northern Florida is the heaviest I have ever observed.

abama

J. M. Robinson (September 19): The fall webworm is moderately abundant on various shade and forest trees.

BAGWORMS (Thyridopteryx ephemeraeformis Haw.)

ryland

E. N. Cory (August 16): Bagworms are locally abundant.

io

E. W. Mendenhall (September 26): There has been a severe outbreak of bagworms on apple tree stock in a nursery near Lancaster (Fairfield County). The bagworm was quite bad last year in the same nursery.

abama

J. M. Robinson (September 19): The bagworm is abundant on arborvitae at Birmingham.

GREEN-STRIPED MAPLE WORM (Anisota rubicunda Fab.)

SADDLED PROMINENT (Heterocampa guttivitta Walk.)

Vermont

H. L. Bailey (September 23): Pupae of the green striped maple worm were found in leaf mold in defoliated maple areas with larger number of pupae of Heterocampa guttivitta. Areas stripped by these insects were scattered throughout the southern part of the State.

onnecticut

W. E. Britton (September 23): A large woodland area of maple, oak, beech, and birch in Norfolk and Canaan has been partially defoliated by Heterocampa guttivitta.

SATIN MOTH (Stilpnnotia salicis L.)

Vermont

H. L. Bailey (September 23): The satin moth was found as far north as Bradford in the Connecticut River Valley. No complete defoliation caused by the larvae was noted, however.

BEECH

A SKELETONIZER (Psilocorsis faginella Cham.)

Maine

H. B. Peirson (September 25): A beech skeletonizer, possibly Psilocorsis faginella, is numerous from Cape Britton through the Eastern Provinces and Maine to the New Hampshire border. Areas have been reported where every leaf on every beech tree is infested.

BIRCH

TH SKELETONIZER (Bucculatrix canadensisella Chamb.)

Maine

H. B. Peirson (September 20): A heavy outbreak is occurring throughout northern Maine and it is reported from the Eastern Provinces.

Michigan

R. H. Pettit (September): The birch leaf skeletonizer is reported from the east coast, lower peninsula, and upper peninsula.

BIRCH LEAF-MINING SAWFLY (Phyllotoma nemorata Fallen)

Maine

H. B. Peirson (September 25): A general outbreak which started three years ago appears heaviest now. Parasitism is negligible.

A SAWFLY (Hylotoma pectoralis Leach)

Maine

H. B. Peirson (September 27): This insect has been found defoliating birch in many sections of Maine.

BOXELDER

BOXELDER BUG (Leptocoris trivittatus Say)

Illinois

W. F. Flint (September 15): About the usual number of reports of invasions of houses by these insects have been received.

J. A. Munro (September 19): Boxelder bugs have been recently noticed as rather numerous in Fargo.

G. F. Knowlton (September 24): Boxelder bugs are proving to be a pest of houses at this season, and many complaints are being received.

CATALPA

A. LEAF BUG (*Leptococcus consocii* Linn.)

W. E. Britton (September 23): Catalpa trees are severely infested in sections of the city of New Haven between Dixwell Avenue and Goffe Street.

ELM

ELM LEAF BEETLE (*Galerucella xanthomelaena* Schrank)

W. E. Britton (September 23): Unsprayed elm trees are brown in many portions of the State. Condition aggravated by drought.

Z. P. Metcalf (September 16): The leaf beetle is found to be abundant at Raleigh. It has been more abundant in Raleigh this past season than has been noted in the last 15 or 16 years.

OAK

OAK SPANWORM (*Ellopia somniaria* Hbst.)

D. C. Mote (August): Most extensive infestation of recent years of the oak tree looper. Practically 100 per cent of oaks in Yamhill and Polk Counties have been completely defoliated. Caterpillars going into pupal stage September 5. Reported by W. J. Chamberlin.

PINE

A PINE SAWFLY (*Neodiprion* sp.)

J. R. Watson (September 24): A pine sawfly (*Neodiprion* sp.) has been sent in from Perry where it was defoliating southern longleaf pine trees.

ABBOT'S SAWFLY (*Diprion abbotii* Leach)

H. L. Bailey (September 23): Abbot's sawfly is reported as damaging a white pine plantation at Barton.

Ohio

E. W. Mendenhall (September 26): There has been an outbreak of Abbot's pine sawfly at Sidney (Shelby County), attacking white pines.

PINE BARK APHID (Chermes pinicorticis Fitch)

Minnesota

H. O. Putnam (September 8): The woolly aphid is very abundant on white pine in Fillmore County.

SPRUCE

SPRUCE SAWFLY (Neodiprion abietis Harr.)

Maine

H. B. Peirson (September 10): The fir sawfly is reported in Georgetown. Adults are laying eggs in needles of red spruce and fir.

SPRUCE NEEDLE MINER (Taniva albolineana Kearf.)

Ohio

E. W. Mendenhall (August 29): The spruce needle miner is generally infesting the spruce evergreens in central and southern Ohio. (September 5): I find spruce needle miner on Koster's blue spruce in one of the nurseries at Dayton.

A LEAF MINER (Epinotia nanana Treit.)

Maine

H. B. Peirson (September 25): The spruce webworm is not so bad as in previous years.

INSECTS AFFECTING GREENHOUSE AND

ORNAMENTAL PLANTS AND LAWNS

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Georgia

Oliver I. Snapp (September 8): The adults are very abundant now. Considerable damage has been done to privet and other plantings around houses, at Fort Valley.

Mississippi

R. W. Harned and assistants (September): This insect is very abundant on crepe myrtle at Lucedale, and on privet at Natchez.

FLOWER THRIPS (Frankliniella tritici Fitch)

Ohio

E. W. Mendenhall (September 25): Thripsinfestation on gladioli is quite bad at Painesville, Lake County.

ARBORVITAE

ARBORVITAE LEAF MINER (Argyresthia thuiella Pack.)

Maine

H. B. Peirson (September 20): The arborvitae leaf miner, Recurvaria thujaella, is very prevalent in northern Maine.

BAY

LAUREL PSYLLID (Trioza alacris Flor.)

Virginia

G. E. Gould (September 24): The laurel psyllid has been reported from bay trees in Norfolk. The damage of this insect is from the unsightly appearance of the infested tree rather than any injury to the foliage.

CACTUS

COCHINEAL INSECT (Dactylopius tomentosus Lamarck)

Arizona

C. D. Lebert (September 25): Severe infestations were found on cholla cactus in two Phoenix cactus gardens. A small lady beetle was feeding on the scale at both places.

CANNA

LARGER CANNA LEAF ROLLER (Calpodes ethlius Cramer)

Mississippi

H. Dietrich (September 20): The larger canna leaf roller is very abundant on cannas at Lucedale.

R. P. Colmer (September 20): The larger canna leaf roller is very abundant in the vicinity of Pascagoula and Moss Point.

CAMELLIA

BLACK CITRUS APHID (Toxoptera aurantiae Koch)

Mississippi

H. Dietrich (September 20): Aphids (Toxoptera aurantiae) are abundant on Camellia japonica in a nursery at Lucedale.

CHRYSANTHEMUM

SOD WEBWORMS (Crambus spp.)

Maryland

E. N. Cory (August 16): Sod webworms injured chrysanthemums in one greenhouse in Baltimore County in mid-July. These apparently came in with sod used in preparing the soil that went into the bed.

CHRYSANTHEMUM LACEBUG (Corythucha marmorata Uhl.)

Mississippi

R. W. Harned (September 22): Chrysanthemum leaves infested with Corythucha marmorata were received from Alligator on September 4, and from Natchez on September 8.

HAWTHORNA LACEBUG (Corythucha cydoniae Fitch)

Virginia

G. E. Gould (September 24): This lacebug has done considerable damage to an ornamental Pyracantha or English hawthorn in Norfolk.

HIBISCUSLETTUCE BUG (Corizus hyalinus Fab.)

Mississippi

R. W. Harned (September 22): Specimens were received on August 23 from Perkinston where they were reported as abundant on the seed pods of Hibiscus.

IVYIVY SCALE (Aspidiotus hederæ Vallot)

Virginia

G. E. Gould (September 24): The ivy scale is abundant in Norfolk on English Ivy.

ROSEROSE STEM GIRDLER (Agrilus viridis L.)

Connecticut

M. P. Zappe (September 24): Borers attacking Rosa rugosa, R. multiflora, and R. hugonis; in only 1 case were they attacking tea roses, which are usually free from infestation. Reported over the entire State more abundantly than ever before observed in Connecticut.

INSECTS ATTACKING MAN AND

DOMESTIC ANIMALS

MAN

MOSQUITOES (Culex spp.).

Maryland

J. A. Hyslop (September 15): In the southeastern part of Montgomery County mosquitoes have been more troublesome than any time in the past 10 years.

E. N. Cory (September 22): Mosquitoes are very abnormally abundant, especially Culex spp.

Missouri

L. Haseman (September 24): A small species of Culex has been unusually abundant and annoying through August and September. In the vicinity of Columbia it has been breeding abundantly in the streams and the adults have migrated into the city in swarms. The small size of the species has made it possible for it to pass through ordinary screens, and it is therefore particularly annoying at night.

DOG FLEAS (Ctenocephalus canis Curt.)

CAT FLEAS (Ctenocephalus felis Bouche)

General

F. C. Bishopp (September 28): About the usual number of reports of house infestations of fleas have been received this season, but the trouble has continued later than ordinarily, probably owing to the warm weather. These reports emanate mainly from the North Atlantic States, with many from the vicinity of Washington, D. C.

BLACK WIDOW (Latrodectus mactans Fab.)

Mississippi

R. P. Colmer (September 20): A child at Escatawpa was made quite sick from the bite of the hourglass spider.

CATTLE

STABLE FLY (Stomoxys calcitrans L.)

General

F. C. Bishopp (September 2 - 12): Stable flies were observed to be a severe annoyance to all classes of livestock in the following localities: Tremonton, Ogden, Salt Lake City, Utah; Cheyenne Wells, Colorado; Hays, Ellsworth, Junction City, and Manhattan, Kans. In eastern Colorado and western Kansas the stock were seen to be bunched fighting stable and horn flies from early morning to sundown, as a result of which there was reduced flesh and a sharp decline in milk flow.

NOSE BOTFLY (Gastrophilus haemorrhoidalis L.)

General

F. C. Bishopp (August and September): The nose fly in recent years has extended its range westward across Montana, northern Idaho, and western Washington. It has also become well established throughout most of Wyoming, in northern Colorado, and in northeastern Utah.

POULTRY

CHICKEN MITE (Dermanyssus gallinae Redi)

Maryland

R. D. Wagner (September): Since September 1 there has been a sharp decline in the number of mites in chicken houses in Prince Georges County. It is now difficult to find any infested premises.

WESTERN HEN FLEA (Ceratophyllus niger Fox)

Oregon

F. C. Bishopp (August 30): The hen flea is causing much annoyance to poultry in this section, both on commercial and farm flocks. Apparently egg production and the condition of the fowls are lowered, and the fleas are also annoying to the people who attend to the poultry.

HOUSEHOLD AND STORED -

PRODUCT INSECTS

ANTS (Formicidae)

Mississippi

M. R. Smith (September 22): Mr. E. E. Byrd collected specimens of what is believed to be Tetramorium striatidens Emery, from the brick wall of a store in the business section of West Point. This is the second time that the species has been recorded from the United States. It was first taken in this country at New Orleans by E. R. Barber in 1913. (Wheeler, Jour. Econ. Ent., Vol. 1, pp. 566-570, 1916.) According to Wheeler the ant is becoming widely distributed over all parts of the world. G. W. Haug states that Tetramorium guineense Fab. is common in the business section of Pascagoula. It was observed crawling over vegetables in many stores there. Recently we received specimens from Neely. Mr. Haug states that the crazy ant (Paratrechina longicornis Latr.) is unusually common in the business section of Gulfport. According to him the ants can be seen infesting fruits and vegetables in the stores. They do not seem to infest meats especially. Recently J. P. Kislanko has taken this ant at Wiggins. This is the first time that the species has been recorded from any of our inland towns. A native species, the

lion ant (Dorymyrmex pyramicus Roger) has been complained of a number of times as infesting houses. The ants are also of some benefit because they prey on fall webworms, corn ear worms, grass worms, etc.

A WOOD-BORING BEETLE (Platypus compositus Say)

Mississippi

H. Dietrich (September 20): Platypus compositus is very abundant in hardwood logs in Pascagoula Swamp, George County. These logs were cut in the spring, drawn to the bank of Big Creek, but because of low water were never floated away.

LARDER BEETLE (Dermestes lardarius L.)

Indiana

J. J. Davis (September 22): The larder beetle was reported very destructive to home-cured hams at Huntington, September 13.

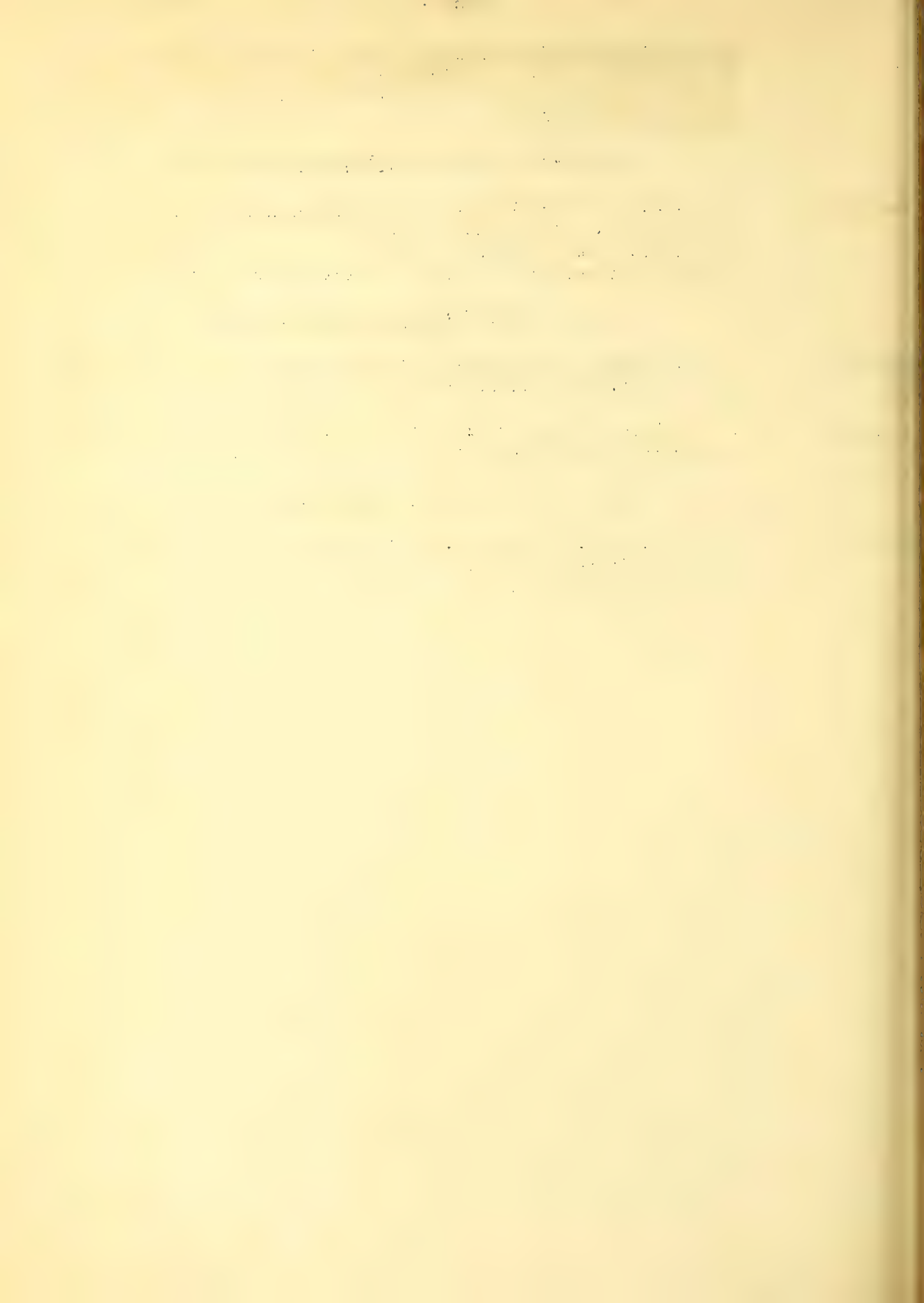
Missouri

L. Haseman (September 24): Larder beetles have been reported as very destructive on cured meats recently.

DRIED FRUIT BEETLE (Carpophilus hemipterus L.)

Arizona

C. D. Lebert (September 25): Numerous on and in some California peaches at Phoenix store. Many peaches were returned and were unsalable.



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OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR OCTOBER, 1930

October developments in the grasshopper situation include defoliation of young citrus in many parts of Florida, serious destruction of new fall plantings of alfalfa and crimson and red clovers in Franklin and Winchester Counties, Tenn., and rather large populations building up in northern Nebraska, western North Dakota, and parts of Iowa.

In addition to the rather heavy infestation of the Middle Atlantic States by the fall armyworm, reported in the last number of the Survey Bulletin, the insect was quite generally prevalent and in many cases seriously destructive in Ohio, Indiana, Kentucky, Mississippi, and Texas.

A heavy growth of volunteer wheat, in southeastern Nebraska, which is now developed to such a size that it can not be easily destroyed by disking, makes possible a serious infestation of the Hessian fly in wheat next spring in that section. Moderate infestation is also reported from several counties in southern Iowa.

A heavy flight of chinch bugs to hibernation quarters took place in Illinois during early October. Practically all lawns of St. Augustine grass in Fairfax, S. C., have been seriously injured by this insect.

The corn ear worm is appearing in noticeable numbers in southern New Hampshire the first time since 1922. It is reported as quite prevalent throughout the remainder of the New England and Middle Atlantic States, causing a loss of at least one-third of the corn crop in the intensive truck-growing section of Long Island, N. Y. This heavy infestation extended westward as far as Michigan, Nebraska, Kentucky, and Indiana.

The velvetbean caterpillar, though appearing in rather large numbers in parts of Louisiana, is not extending so far westward as it did in the season of 1929.

A scarabaeid beetle (Bolboderosoma bruneri D. & McC.) was found early in September damaging golf greens near Lincoln, Nebr., in the same manner as do common white grubs.

Codling moth injury is being reported as quite generally severe throughout the New England, Middle Atlantic, and South Atlantic States and westward over practically the entire Mississippi Valley Region. In Washington State, however, infestation is said to be much below normal.

Considerable damage by leafhoppers on deciduous fruits is reported from New England, West Virginia, Georgia, and Indiana.

Following extremely low temperatures last winter in parts of Washington State, woolly apple aphid infestations were much below normal this year.

The hot summer and mild fall are believed to have been responsible for a very marked increase of the San Jose scale population in central and southern Illinois.

The twig girdler is quite generally prevalent and causing some injury to pecan and English walnuts in parts of Virginia, North Carolina, and South Carolina.

The finding of the walnut husk fly at the mouth of Cajon Canyon in San Bernardino County, Calif., indicates that this insect extends over a much larger area in southern California than was originally suspected.

The citrus whitefly, Florida red scale, and purple scale are reported as being more abundant than usual for this season of the year. It is believed that the dry weather has hindered the development of the entomogenous fungi which normally partially control these pests.

A single specimen of the Colorado potato beetle was collected in Davis County, Utah, this year. This insect has not been observed in Utah for several years.

The potato tuber worm is much more prevalent on the Department of Agriculture's farm at Arlington, Va., than it has been for the past two years. Specimens of this insect were also received in potato tubers from Frederick County, Md., this year.

The southern green stink bug is reported as being very effectively controlled by the parasite Trichopoda pennipes Fab. in Florida.

Cabbage loopers were unusually prevalent in the Norfolk section of Virginia, southern Illinois, the whole of Mississippi, and parts of Texas.

The Mexican bean beetle is quite generally reported as either absent from fields or decidedly reduced throughout the New England and Middle Atlantic region. No reports of damage by this insect were received during the month of October.

A very unusual type of injury was observed in September in the Norfolk section of Virginia. A small black burrower bug (Pangaeus uhleri Sign.) was attacking new sprouted spinach, killing the young plants before they pushed through the soil. They were so numerous in one field that 43 acres had to be resown.

Thousands of acres of Douglas fir have been killed in the Colville National Forest in Washington State by the Douglas fir tussock moth. The serious outbreaks of this insect in central Idaho now seem to be controlled by parasites.

The mountain pine beetle is causing serious damage on both the east and west side of the Cascade Range in Washington State.

What is believed to be one of the largest outbreaks of the southern pine beetle is reported from the Smoky Mountain National Park in North Carolina and Tennessee.

The squash bug is reported from Payette and Gem Counties, Idaho.

The fifth case of infestation of cedar trees by the larvae of the moth Tortrix cockerellana Kearf. that has come to the attention of the entomologists of Nebraska was reported this year from Frontier County. The insect has been known to occur in the State for the past four years.

The fowl tick has been discovered in Brookhaven, Miss. The source of this infestation is not known.

The finding of Cleonus piger Scop., in Yates County, N. Y., again this year seems to indicate that this European pest is established in that State. In Europe the pest is known as a sugar-beet insect.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

- Florida J. R. Watson (October 20): Grasshoppers are very abundant over all the State, many species stripping the leaves from young citrus.
- Michigan R. H. Pettit (October 20): Grasshoppers are very abundant.
- North Dakota J. A. Munro (October 23): Mr. Robert L. Shotwell, Assistant Entomologist, Bureau of Entomology, writes to me under date of October 17, in part, as follows: "I found a fair sprinkling of adults in all places that I visited last month even though no damage was reported. Given favorable conditions, these could lay enough eggs to produce quite a crop next year." This report refers particularly to the western part of North Dakota.
- Iowa H. E. Jaques (October 25): Grasshoppers have been moderately to very abundant throughout most of the State and still show up in large numbers on warm sunny days. They have had a very favorable time for egg-laying.
- Tennessee C. Benton (October 18): About the first part of September a farmer located 4 miles southwest of Winchester had about 20 acres of red clover destroyed by grasshoppers. During the latter part of September and the first half of October, total destruction of, or partial injury to, new fall plantings of alfalfa and crimson clover were reported from various parts of Franklin County.
- Nebraska M. H. Swenk (September 1-October 15): Damage by grasshoppers continued in parts of northern Nebraska until about the middle of September. (October 20): Grasshoppers are very abundant in northern Nebraska.
- Utah G. F. Knowlton (October 20): Grasshoppers are becoming less abundant now, and damage is decreasing rapidly.

FIELD CRICKET (Gryllus assimilis Fab.)

- Nebraska M. H. Swenk (September 1-October 15): Field crickets were very annoying as household pests in Scotts Bluff and Morrill Counties, especially in Bridgeport and Scottsbluff, during the month of September.
- Mississippi R. W. Harned (October 22): Complaints have continued to come during the past month in regard to the abundance of crickets. Apparently these insects are most abundant in the northwestern part of Mississippi. Some reports of their unusual abundance have also been received from the prairie section of northeastern Mississippi.

CUTWORMS (Noctuidae)

H. E. Jaques (October 25): Cutworms have shown considerable fall activity in several of the counties in the northern half of the State.

G. E. Gould (October 23): Cutworms of several species are abundant at present on spinach about Norfolk.

J. R. Watson (October 20): Cutworms are moderately abundant over all the State.

State Plant Board of Mississippi Press Release (October 27): Heavy damage to alfalfa by cutworms was reported from Washington County.

FALL ARMYWORM (Laphygma frugiperda S. & A.)

L. A. Stearns (October 20): The fall armyworm is generally severe throughout the State and many complaints were received during early and mid-September.

T. L. Guyton (October 24): Probably the outstanding occurrence in the last month or so was the outbreak of fall armyworms in York and Cumberland Counties. This insect caused considerable damage in certain districts of these counties and in one instance destroyed a 7-acre field of fall barley. Numerous reports of damage to lawns were received.

G. E. Gould (October 23): The fall armyworm has practically disappeared except for several small infestations on spinach. Only slight damage has been reported.

T. H. Parks (September 30): An outbreak occurred on a farm in Butler County during September. The worms fed upon volunteer wheat that grew after wheat stubble ground was plowed and planted to alfalfa. They have been noticed for two weeks and have now almost destroyed the wheat in some spots of the field. They fed a little on the alfalfa but did not seriously injure it. Larvae are now pupating under clods and in the loose soil near the surface. A few larvae have tachinid eggs on them. (October 6): About two dozen larvae collected September 30 were brought to Columbus and fed with grass. These have now all pupated except one. The larvae were very dark in color and at first glance would not be taken for the fall armyworm. Identification of the insect was verified by Mr. Philip Luginbill. (October 28): Larvae collected September 30 in Butler County had pupated a few days later and moths were emerging by the middle of October. No parasites emerged from these larvae. On October 8 the county agent reported that the larvae had all pupated in the field.

J. J. Davis (October 20): Definite reports were received during the second week in October from Tell City, Cannelton, and Corydon. In all cases damage to rye, wheat, and barley was serious and in some cases the worms totally destroyed these crops.

Kentucky

W. A. Price (October 23): Beginning October 2 and continuing through the present date the fall armyworm has been very destructive to rye, wheat, and alfalfa fields in central and western Kentucky.

Mississippi

R. W. Harned (October 22): On October 17, J. Whitaker, County Agent, reported that insects were causing serious damage to alfalfa in Washington County. He sent in one lot of worms that had destroyed in one spot 2 acres, and in hundreds of places spots from 10 to 50 feet in size. In the package that he sent were 10 worms. Three have been identified as Heliothis obsoleta Fab. and seven as Feltia annexa Treit. Another package of worms that he reported were destroying alfalfa contained three specimens of Heliothis obsoleta and five specimens of Laphygma frugiperda. (October 22): Serious injury to turnips was reported recently from Jackson and Meridian.

State Plant Board of Mississippi Press Release (October 27): The southern grassworm continued to be very destructive during the month, attacking pastures, lawns, gardens, soy beans, and alfalfa in various parts of the State. Early plantings of oats were completely killed by this pest in George County.

S. W. Clark (October 12): The fall armyworm is doing severe damage to beans in the Raymondville section, Willary County. (October 15): The fall armyworm is very abundant and doing severe damage to beans, beets, carrots, cabbage, cane, sudan grass, and lawns throughout the whole lower Rio Grande Valley.

WHITE GRUBS (Phyllophaga spp.)

New York

Staff of Geneva Experiment Station (September 29): White grubs are moderately abundant in Geneva.

Indiana

J. J. Davis (October 20): White grubs were reported attacking corn and potatoes at Frankfort, September 24. (October 20): White grubs are moderately abundant in the northwestern quarter of the State.

Michigan

R. H. Pettit (October 20): White grubs are very abundant.

Iowa

H. E. Jaques (October 25): Many of the counties in the usual brood region show heavy infestations.

Nebraska

M. H. Swenk (September 1-October 15): Injury to lawns, golf greens, and haymeadows continued to be reported from northeastern Nebraska until about September 20.

RED SPIDER (Tetranychus telarius L.)

Washington

M. A. Yothers (August 1930): Unusually severe infestations of this mite in apple orchards in certain sections of the Wenatchee district. In certain orchards the trunks, branches, foliage, and fruit were covered with the mites and their webbing.

CEREAL AND FORAGE - CROP INSECTS

WHEAT AND RYE

HESSIAN FLY (Phytophaga destructor Say)

New York

Staff of Geneva Experiment Station (September 29): The Hessian fly is moderately abundant in Geneva.

Illinois

W. P. Flint (October 21): The extremely dry summer has greatly reduced the infestation in this State and except for a small area in southwest-central Illinois, there will apparently be little damage from the insect in the State this fall. Even in early-sown wheat infestation is very light.

Iowa

H. E. Jaques (October 25): Dallas, Cass, Adair, Warren, and Van Buren Counties report moderate to heavy infestations. Some of the neighboring counties report their presence in smaller numbers.

Nebraska

M. H. Swenk (September 1-October 15): In spite of the fact that the extremely hot and dry month of July destroyed a large percentage of the puparia, there remained quite a heavy infestation of viable puparia in the wheat stubble, and, with the coming of August rains, the Hessian fly emerged abundantly and attacked the heavy growth of volunteer wheat that had sprung up. Most of this volunteer growth has not been destroyed, and is now too large to destroy by disking. At the same time it is heavily laden with larvae and puparia which will form an extremely serious menace to the sown crop of wheat next spring, if not yet this fall through a possible supplementary fall brood the latter part of October.

APPLE GRAIN APHID (Rhopalosiphum prunifoliae Fitch)

New York

Staff of Geneva Experiment Station (October 20): Grain aphids are moderately abundant in Geneva.

Nebraska

M. H. Swenk (September 1-October 15): During the second week in October a rye field in northern Cass County was practically ruined by an abundance of the apple grain aphid. (October 20): The apple grain aphid is moderately abundant on rye in eastern Nebraska.

CORN

CHINCH BUG (Blissus leucopterus Say)

- South Carolina J. N. Tenhet (October 15): Practically all lawns of St. Augustine grass in the Fairfax section are being very seriously injured. The grass on many lawns has been killed outright.
- Indiana J. J. Davis (October 20): The chinch bug is common in the northeastern corner of the State.
- Illinois W. P. Flint (October 21): There were very heavy flights of chinch bugs to hibernation quarters during the early part of October. If the spring of 1931 is dry or moderately dry, this insect will undoubtedly cause damage in some six or ten Illinois counties.
- Iowa H. E. Jaques (October 25): The chinch bug is very abundant in Monroe County.

CORN EAR WORM (Heliiothis obsoleta Fab.)

- New Hampshire P. R. Lowry (October 19): The corn ear worm is moderately abundant in the southern quarter of the State. This is the first time it has been at all common since 1922.
- Connecticut W. E. Britten (October 24): The corn ear worm has been more abundant in Connecticut this year than usual and has caused serious injury in several cases.
- Delaware L. A. Stearns (October 20): The corn ear worm is very abundant throughout the State.
- New York Staff of Geneva Experiment Station (October 20): The corn ear worm is very abundant in Chautauque and Erie Counties.
- C. R. Crosby (October): The corn ear worm injury is very severe all over Suffolk County - more so than in recent years. Caused the loss of at least one-third of the crop. (W. G. Been)
- New Jersey T. J. Headlee (October 8): The corn ear worm is moderately abundant.
- Pennsylvania T. L. Guyton (October 24): The corn ear worm was very abundant in late roasting ears. Of course the dry weather we had here probably destroyed the chance of late roasting ears developing.
- West Virginia L. M. Pears (October 20): The corn ear worm is very abundant in Morgantown.
- Virginia G. E. Gould (October 23): The corn ear worm was moderately abundant during September and October in snap-bean fields. Observations on beans picked around October 10 showed that a large percentage had been injured enough to lower their market value. Injury was also noted on tomatoes and corn.

- Florida J. R. Watson (October 20): The corn ear worm is moderately abundant, feeding mostly on beggarweed seed.
- Indiana J. J. Davis (October 20): Considerable injury to canning + tomatoes. Abundant the past month throughout the State on both field and sweet corn. A one-third grown larva was seen in Mitchell September 27, eating into an apple. Reports from Boonville and Scottsburg, October 13 and 14, respectively, mention serious losses to tomatoes, a large percentage being attacked. From Vincennes we have a report October 17 that they were attacking sweetpotatoes.
- Kentucky W. A. Price (October 23): The corn ear worm is very abundant on corn, tomatoes, and soy beans. After the maturity of the corn it has in many instances gone to the stalk and to other near-by crops.
- Michigan R. H. Pettit (October 20): The corn ear worm is moderately abundant.
- Iowa H. E. Jaques (October 25): The corn ear worm seems to have been more active than usual this year. Much of the late sweet corn suffered, while field corn in many counties shows unusual activity. The distribution was rather general throughout the State.
- Nebraska M. H. Swenk (September 1-October 15): The corn ear worm was reported as doing serious damage in cornfields in Nemaha County late in September and early in October.
- Mississippi G. I. Worthington (October 15): The corn ear worm is very abundant at Cleveland. Damage to tomatoes and late corn is unusually severe.
- F. A. Smith (October 20): The corn ear worm is very abundant in the northwestern part of the State.
- T. F. McGhee (October 18): Corn ear worms are very abundant at Holly Springs. Feeding in heads of sagrain.
- Utah G. F. Knowlton (October 20): The corn ear worm caused considerable damage to corn, and was observed damaging green tomatoes at Logan.
- Idaho U. C. Loftin (October 14): My impression is that Heliothis obsoleta can be found at Central Baragua at any time of the year on corn. Corn is planted during any month of the year and that which we get for table use is usually infested.

CORN ROOT WORMS (Diabrotica spp.)

- Nebraska M. H. Swenk (September 1-October 15): Adults of the Colorado

corn root worm (D. virgifer Lec.), of the New Mexico corn root worm (D. filicornis Horn), and of the western corn root worm (D. longicornis Say) were plentiful in and about the cornfields in the heavily infested area in southwestern Nebraska, which includes Redwillow, Hitchcock, Dundy, and the southern parts of Frontier and Chase Counties, until well into October. A campaign urging a general rotation of all fields that were in corn this year is now being put on, beginning with a farmers' tour of inspection of the damaged fields around McCook on October 17.

SOUTHERN CORN STALK BORER (Diatraea zeacolella Dyar)

North Carolina C. H. Brannon (October 22): Very severe infestation on corn on State Hospital farm at Goldsboro, Wayne County.

SOY BEANS

VELVETBEAN CATERPILLAR (Anticarsia gemmatilis Hbn.)

Louisiana W. A. Douglas (October 2): The velvetbean caterpillars have not been found so far west as they were in 1929. Examinations have been made as far west as Nome, Tex., which is about 20 miles west of Beaumont, but no injury was found west of Crowley, La., along the Southern Pacific Railroad. Along this line, Nome marked the western limit of infestation last year, while this year the infestation ends at Crowley. North of Crowley, the infestation has been traced as far as Colfax, northwest of Alexandria, but the northern limit was not reached. Injury to soy beans is severe from Crowley to Colfax and near Lafayette and Jeanerette. The fungus disease Botrytis rileyi has been noted in several fields.

Cuba U. C. Loftin (October 14): I noticed some of the velvetbean caterpillars about the first of September and today I saw full-grown larvae feeding on the same bean plants. The infestation here has been very light this summer. Doubtless they are already in the United States before now.

COWPEA CURCULIO (Chalcodermus peneus Boh.)

Alabama J. M. Robinson (October 20): The cowpea curculio is very abundant in Auburn.

BEAN LEAF BEETLE (Cerotoma trifurcata Forst.)

Louisiana W. E. Hinds (October 29): Cerotoma trifurcata Forst. has been very abundant on soy beans and cowpeas and appears to have been quite largely responsible for preventing the setting of pods on cowpeas.

GRASS

A SCARABAEID BEETLE (Bolbocerosoma bruneri D. & McC.)

Nebraska H. H. Swenk (September 1-October 15): Early in September it was found that the golf greens at the Shrine Club near Lincoln had been seriously damaged by the larvae of B. bruneri, which worked after the manner of common white grubs.

A SCARABAEID BEETLE (Ochrosidia immaculata Oliv.)

Indiana J. J. Davis (October 20): White grubs (Cyclocephala immaculata) were injuring golf greens October 1 at Indianapolis.

SUGAR CANE

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana M. E. Hinds (October 29): Diatraea saccharalis Fab. is unusually scarce. The damage to sugar-cane will be the lightest in many years.

F R U I T I N S E C T S

COTTON LEAF WORM (Alabama argillacea Hbn.)

Massachusetts A. I. Bourne (October 2): Dr. Fernald reported that he observed the cotton leaf worm for the first time on the night of September 25-26, when the moths were present in Amherst in considerable numbers.

Connecticut W. E. Britton (October 24): There was a heavy invasion of moths in Bridgeport and lighter ones at Greenwich and some other towns and cities the last days of September. I did not see any in New Haven.

West Virginia L. M. Peairs (October 20): The cotton worm is reported in Morgantown. Moths migrating on September 25 and for a week after that date in moderate numbers.

Georgia C. H. Alden (October 24): The cotton leaf worm is moderately abundant in the Middle Georgia section.

Illinois J. P. Flint (October 21): There has been a very heavy flight of moths during the early part of October. Very large numbers of these insects were noted during the first few days of the month and again on October 13 and 14.

Minnesota A. G. Ruggles (October 10): Alabama argillacea was very abundant the last of September. Injury to the fruit of strawberry was seen at Eden Prairie.

- Alabama J. M. Robinson (October 20): The cotton leaf worm is very abundant in Auburn.
- Mississippi R. W. Harned (October 22): These insects are very abundant practically every part of the State.

APPLE

CODLING MOTH (Carpocapsa pomonella L.)

- New York C. R. Crosby (October 20): Codling moth injury is very severe in the Hudson Valley this year. One large commercial orchard shows injury of about 60 per cent of the crop.
- Staff of Geneva Experiment Station (October 20): The codling moth is very abundant in western New York.
- New Jersey T. J. Headlee (October 8): Codling moths are moderately abundant.
- West Virginia L. M. Peairs (October 20): The codling moth is very abundant in Berkeley County.
- Georgia C. H. Alden (October 24): The codling moth is very abundant in Cornelia; worst since 1925.
- Ohio T. H. Parks (October 28): Counts have just been completed in 94 orchards where the spray-service recommendations were followed. These men sprayed in the calyx, followed by two to four cover sprays, depending upon their location and the degree of worm infestation; 5.5 per cent of the fruit was infested or blemished by the larvae at harvest time, compared to 4.4 per cent damaged in 1929. The heaviest infestation was in southern Ohio where larvae continued to enter the fruit in September. In Lawrence County, where two-thirds of the growers were unable to apply all of the sprays owing to water shortage, approximately 50 per cent of the fruit was damaged by codling moth larvae. In the orchards which followed our schedule, only one spray was applied for the second brood of worms.
- Indiana J. J. Davis (October 20): Larvae were still entering fruit in southern Indiana a week ago.
- Illinois W. P. Flint (October 21): Third-brood and late second-brood codling moth larvae caused very heavy damage to apples this year. Surveys in southern and western Illinois conducted by Mr. Chandler and Mr. Bigger show infestations running as high as 58 per cent in some orchards in southern Illinois and 30 per cent in some orchards in western Illinois. These infestations occurred in commercial orchards which had received from five to seven applications of spray during the summer.

There were some striking differences in near-by orchards. In one case two orchards owned by the same person, sprayed with the same crews and rigs, containing the same varieties of trees of the same age and sprayed with the same schedule showed an infestation of 28 per cent in one case and 4 per cent in the other.

Kentucky W. A. Price (October 23): The codling moth is very abundant. We collected 109 larvae from 8 bushels of wind-fall apples gathered in the station orchard at Lexington on October 22.

Michigan R. H. Pettit (October 20): The codling moth is very abundant.

Minnesota A. G. Ruggles (October 10): The codling moth is very abundant in Ramsey and Hennepin Counties.

Missouri R. M. Jones (October 23): Apple harvest has been completed in some orchards and is in full swing in other orchards. The codling moth is moderately to very abundant. Late worms were more numerous this year than usual. The last egg deposition was recorded on October 3 and the last larvae were observed entering the fruit on October 15.

Utah G. F. Knowlton (October 11): Injury to apples has been rather severe during the past season in many Cache Valley orchards.

Washington M. A. Yothers (October 6): Infestation is much below that of average years. In one district where minimum winter temperature of -25° F. occurred, and where spring frosts destroyed almost all blooms, obviating the necessity for any spraying, the occasional apples still on the trees have been entirely free from codling moth infestation. Normally a few scattered apples would be very highly infested if left unsprayed. Doubtless minimum winter temperatures of -25° F. caused a high mortality of overwintering larvae.

LEAFHOPPERS (Cicadellidae)

New Hampshire P. R. Lowry (October 19): Typhlocyba pomaria McA. is very abundant in the southwestern part of the State. Leaves of apple have been badly stippled since August.

Connecticut M. P. Zappe (October 23): Apple leafhoppers started in spring in about the usual numbers and gradually increased during the summer. At harvest time adults were very abundant causing injury to foliage and staining fruit. Owing to lack of rains the stains on fruit have not been washed off, and late varieties of fruit show much discoloration of fruit.

West Virginia L. M. Peairs (October 20): Leafhoppers are very abundant in Berkeley County.

Georgia

O. I. Snapp (October 15): Leafhoppers have been unusually abundant in peach orchards this fall, working the foliage to the extent that it has taken on a silvery appearance.

Indiana

J. J. Davis (October 20): Erythroneura obliqua Say is moderately abundant on apple in southern Indiana. Apple leafhoppers (Tynhlocyba sp.) were abundant the past month in orchards at Mitchell and Bedford. Noticeable excrement-spotting of the fruit as well as whitening of leaves.

Dr. F. H. Lathrop, under date of September 20, writes from Vincennes: "The leafhopper (E. obliqua) is swarming in apple orchards of this section in unusual numbers. This species has been increasing in this section since midsummer. Considerable injury has been done in some orchards through removal of the chlorophyll from the leaves. Rain has removed most of the excreta from the fruit."

Kentucky

W. A. Price (October 23): The apple leafhoppers are moderately abundant.

Michigan

R. H. Petuit (October 20): Apple leafhoppers are very abundant.

Missouri

R. M. Jones (October 23): Apple leafhoppers are moderately abundant on apples at Marionville.

WOOLLY APPLE APHID (Eriosoma lanigerum Hausm.)

Washington

M. A. Yothers (October 6): Woolly apple aphids are much less abundant than they are in average years, doubtless owing to colder winter weather last winter. In districts where minimum temperatures of -25° F. occurred, this season's woolly aphid infestation was extremely light. In the immediate vicinity of Wenatchee, where the minimum temperature of last winter was about -19° F., there was a greater infestation than where the minimum reached -25° F., but still much lighter than in normal years.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Georgia

O. I. Snapp (October 20): The general infestation in this section (Fort Valley) at the present time is moderate.

Illinois

W. P. Flint (October 21): The dry, hot summer and open fall have been very favorable to an increase in numbers of the San Jose scale. While this insect suffered a very high winter mortality from the cold weather of the past winter, it has been able to come back so that slight to moderate infestations can be found in many commercial orchards in central and southern Illinois.

FLAT-HEADED APPLE TREE BORER (Chrysobothris femorata Oliv.)

South Carolina J. N. Tenhet (October 10): The flat-headed apple tree borer has very seriously injured a large young pecan grove. Trees four years old, and coming into bearing, seem as severely injured as one and two year trees. Many trees have been almost completely girdled.

Indiana J. J. Davis (October 20): The flat-headed borer was reported damaging apple at New Richmond September 28, maple at Jeffersonville September 21, and both apple and maple in Randolph County September 18.

APPLE SEED CHALCID (Syntomaspis druparum Boh.)

New Hampshire P. R. Lowry (October 19): Seedling apples and crab apples were badly infested with the apple seed chalcid September 20.

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Minnesota A. G. Ruggles (October 10): The apple maggot is more abundant than usual, much damage resulting. One observer at Preston says no adults were seen until August 18, then they were very abundant.

EUROPEAN RED MITE (Paratetranychus pilosus Can. & Felt.)

New Hampshire P. R. Lowry (October 19): The European red mite is very abundant in many apple orchards. In some orchards 100 per cent of the calyx ends are covered with eggs.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Georgia O. I. Snapp (October 20): We are still getting a few eggs at Fort Valley. Moths have been emerging as late as October 14.

Indiana J. J. Davis (October 20): The peach tree borer was reported from Tell City, LaPorte, Indianapolis, and Michigan City the latter part of September.

Michigan R. H. Pettit (October 20): The peach borer is very abundant.

Nebraska M. H. Swenk (September 1-October 15): The peach tree borer was reported as injurious in southern Clay County during the third week in September.

Utah G. F. Knowlton (October 20): The peach tree borer is damaging peach trees at Provo, Brigham City, and Willard. Damage occurs commonly in peach orchards throughout northern Utah.

LESSER PEACH BORER (Sesia pictipes G. & R.)

Georgia

O. I. Snapp (October 20): The infestation is apparently heavier than usual in orchards which were winter-injured last fall or which have been somewhat neglected or carelessly handled. The large numbers of trees injured by low temperature last fall have contributed to the increased infestation.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Connecticut

P. Garman (October 24): The oriental fruit moth is reported in New Haven and Hartford Counties. The situation is much improved over that prevailing a year ago. Natural enemies observed are Tricogramma minutum Riley, Macrocentrus ancylihora Roh., and Glypta rufiscutellaris Cress.

New York

R. L. Payne through C. R. Crosby (October): Larvae of the first brood of oriental peach moths could be found in practically all sections of Orange County, especially in young orchards. The growth of young trees was checked in a number of orchards as a result of this pest, killing the young terminals.

Staff of Geneva Experiment Station (October 20): The oriental fruit moth is moderately abundant in western New York. (September 29): The oriental fruit moth is moderately abundant in Niagara County.

Pennsylvania

T. L. Guyton (October 24): In counts made for oriental fruit moth infestation, the infestation at Harrisburg ran about 20 per cent on Elbertas and 50 per cent on Iron Mountain at Salway. In the Chambersburg district the counts on Elbertas ran from about 4 per cent to 39 per cent. Counts in all instances were made by cutting open all of the fruits from a particular tree or from a measured lot of the run of the tree.

West Virginia

L. M. Peairs (October 20): The oriental fruit moth is moderately abundant in Berkeley County.

Kentucky

W. A. Price (October 23): The oriental fruit moth is moderately abundant. The amount of twig injury has been very materially reduced this year, owing probably to an absence of perches and to the prolonged drought, the latter resulting in a small amount of growth and in early hardening of the wood.

PLUM CURCULIO (Conotrachelus nemophar Hbst.)

Connecticut

M. P. Zappe (October 23): Curculios have caused a large amount of scars on fruit, especially the fruit on outside rows of orchard trees. Fruit also shows a considerable amount of fall feeding punctures.

New York

C. R. Crosby (October): Evidence of the plum curculio could be found in practically all peach orchards in Orange County. Orchards located near favorable harboring places for the beetles were severely infested. Considerable injury was found to be rather severe on a few trees in various parts of the county. (R. L. Payne)

Staff of Geneva Experiment Station (September 29): The plum curculio is very abundant in Geneva.

Georgia

O. I. Snapp (October 20): All adults have left peach orchards for hibernation. None have been collected in orchards during recent jarrings.

Indiana

J. J. Davis (October 20): The plum curculio is moderately abundant in general. Reported serious in plum orchards at Plymouth, October 13.

Missouri

R. M. Jones (October 23): The plum curculio is scarce at Marionville. Most orchards show only occasional stings on fruit.

WHITE PEACH SCALE (Aulacaspis pentagona Targ.)

Virginia

C. R. Willey (October 21): There seems to be a general infestation in the city of Richmond. Infestations have been observed recently in various sections of the city and some calls have been received asking for control remedies. It is being found on plum, cherry, and peach, chiefly on plum and sweet cherry.

Mississippi

W. L. Gray (October 16): The West Indian peach scale is moderately abundant in Adams County.

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Ohio

T. H. Parks (October 28): According to the county agent, these beetles are doing much damage to peach trees in Fulton County.

QUINCE

QUINCE CURCULIO (Conotrachelus crataegi Walsh.)

New York

Staff of Geneva Experiment Station (September 29): The quince curculio is moderately abundant at Canandaigua and Hall.

CHERRY

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

- Maryland J. A. Hyslop (October 15): Several Japanese cherry trees near Silver Spring were killed by the shot-hole borer.
- Mississippi G. L. Bond (October 16): The shot-hole borer is reported in the Mize vicinity, and in fact it is doing some damage in all sections of Jones, Smith, Covington, Wayne, and Jasper Counties, especially to trees which have suffered from winter injury and peach-tree borers.
- Utah G. F. Knowlton (October 20): A few cases of shot-hole borer injury to young peach and cherry trees have been recently observed in northern Utah.

PLUM

PLUM GOUGER (Anthonomus scutellaris Lec.)

- Nebraska M. H. Swenk (September 1-October 15): A Platte County correspondent reported that the plum gouger (Coccotorus prunicida) had practically ruined her crop of plums during September.

CRANBERRY

CRANBERRY ROOT WORM (Rhabdonterus picipes Oliv.)

- New York Staff of Geneva Experiment Station (September 29): The cranberry rootworm is very abundant at Red Creek.

BLACKBERRY

A MITE (Eriophyes sp.)

- Oregon and Washington S. E. Crumb (September 1): Evergreen, Himalaya, Lawton, Eldorado, and Kittatinny blackberries are attacked, apparently indiscriminately by what appears to be E. gracilis Wal., and mites apparently of the same species have been found on at least two varieties of raspberry and on loganberry. Three separate infested areas are known--one in southern Oregon extending as far north as Yoncalla and west to Myrtle Point, another in the Willamette Valley as far south as Tangent and extending north to Vancouver, Wash., and a third in the Puyallup Valley about Puyallup and Sumner. The infestation is especially heavy about Woodburn, Oreg., where the blackberry crop is practically a total loss in many fields.

PECAN

PECAN CASE BEARER (Acrobasis juglandis L. B.)

Mississippi

H. Gladney (October 15): The pecan leaf case bearer is moderately abundant at Ocean Springs.

PECAN CIGAR CASE BEARER (Coleophora caryaefoliella Clem.)

Mississippi

H. Gladney (October 15): The pecan cigar case bearer is moderately abundant at Ocean Springs.

Twig GIRDLER (Oncideres cingulatus Say)

Virginia

B. A. Porter (October 23): The twig girdler was reported as causing serious injury in a pecan grove in Mathews County, the majority of the small branches being cut off. (Specimens identified by W. S. Fisher).

C. R. Willey (October 21): The twig girdler is apparently more numerous this fall than usual. Specimens have been received from Henrico, Chesterfield, and Pittsylvania Counties. Reports of damage have come from Campbell, Hanover, and Dinwiddie Counties. Most of the damage has been done to English walnut and pecan trees. One specimen of girdled elm has been received and a wisteria which was very badly damaged has been observed.

North Carolina

C. H. Brannon (October 26): Causing unusually severe damage to pecans this season.

Z. P. Metcalf (October 25): The twig girdler is proving to be a serious pest, not only to pecan trees but to various ornamental plants. More complaints have been received this fall than in previous years.

North Carolina

J. M. Tenhet (October 10): Damage very noticeable in several groves of pecans at Fairfax.

PECAN WEEVIL (Calosinus caryae Horn)

Alabama

J. M. Robinson (October 20): The pecan weevil is very abundant in central Alabama.

BLACK PECAN SPID (Myzocallis fumibuccellus Fitch)

Mississippi

State Plant Board of Mississippi Press Release (October 27): The black pecan spider has been much less injurious this fall than last season, very little damage having occurred in most cases.

WALNUT

WALNUT HUSK FLY (Rhagoletis julandis Cress.)

California

Monthly News Letter, Office of Los Angeles County Agricultural Commissioner, Vol. 12, No. 10 (October 13): That the walnut husk fly exists over a larger area in Southern California than it has heretofore been known to inhabit is indicated by the recent finding of larvae in walnuts growing at the mouth of Cajon Canyon in San Bernardino County. The discovery made by San Bernardino County agricultural inspectors places the pest 10 miles east of any previously known infestation. In addition the inspectors state that attacked nuts have been taken from isolated plantings of walnuts at points between the Chino-Pomona area, which has been known to be infested for some time, and the Cajon Pass infestation--a condition which makes it appear likely that the fly is general throughout the area.

CITRUS

A S MALLOWTAIL (Papilio cresphontes Cram.)

Florida

J. R. Watson (October 20): The "orange dog", as is usual at this time of the year, is doing considerable damage to citrus trees in nurseries.

CITRUS APHID (Aphis spiraeicola Patch)

Florida

J. R. Watson (October 20): The green citrus aphid is very scarce over all the State.

SOUTHERN GREEN STINK BUG (Nezara viridula L.)

Florida

J. R. Watson (October 20): The southern green stink bug is decidedly less abundant than during October of the past several years. This seems to be due to the great abundance of the parasite Trichopoda. The substitution of Crotalaria spectabilis for C. striata in many orange groves has also helped in this matter.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida

J. R. Watson (October 20): The citrus whitefly is very abundant. It is rather more abundant than usual for October. Dry weather has hindered development of entomogenous fungi on this insect.

Alabama

J. M. Robinson (October 20): The citrus whitefly is moderately abundant at Spring Hill.

Mississippi

C. L. Gray (October 13): The citrus whitefly is very abundant on privet hedge in Adams County.

FLORIDA RED SCALE (Chrysomphalus ficus Ashm.)

Florida J. R. Watson (October 20): The Florida red scale is moderately to very abundant. It is rather more abundant than usual for October. Dry weather has hindered development of entomogenous fungi on this insect.

Alabama J. M. Robinson (October 20): The Florida red scale is moderately abundant at Spring Hill.

PURPLE SCALE (Lepidosaphes beckii Newm.)

Florida J. R. Watson (October 20): The purple scale is moderately to very abundant. It is rather more abundant than usual for October. Dry weather has hindered development of entomogenous fungi on this insect.

CITRUS RUST MITE (Eriophyes oleivorus Ashm.)

Alabama J. M. Robinson (October 20): The citrus rust mite is moderately abundant at Spring Hill.

Florida J. R. Watson (October 20): The citrus rust mite is moderately abundant.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Mississippi H. Dietrich (October 20): Vegetable weevil adults were reported on turnips in a garden at Lucedale October 16.

GARDEN WEBWORM (Loxostege similelis Guen.)

Virginia G. E. Gould (October 23): The garden webworm is quite injurious to spinach throughout all of the Tidewater region.

Alabama J. M. Robinson (October 20): Turnip webworms are moderately abundant in Auburn.

Mississippi C. Hines (October 15): Garden webworms are moderately abundant at Yazoo City.

Alaska M. H. Srenk (September 1-October 15): The garden webworm seriously damaged some alfalfa fields in central Johnson County during the last half of August.

CABBAGE WEBWORM (Hellula undalis Fab.)

Mississippi State Plant Board of Mississippi Press Release (October 27): The cabbage webworm destroyed several hundred acres of turnips planted for the canning factory at Lucedale.

R. W. Harned (October 22): Specimens were received from New Albany on September 26, where they were reported as seriously injuring turnip, cabbage, and collard plants, and from Meridian on September 29, where they were reported as causing serious injury to turnips.

FALSE CHINCH BUG (Nysius ericae Schill.)

Virginia

G. E. Gould (October 23): The false chinch bug is exceedingly abundant in the Norfolk region this fall and damage to turnips, mustard, and spinach has been reported.

POTATO AND TOMATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Utah

G. F. Knowlton (October 20): The Colorado potato beetle has not been observed in Utah for several years, but one adult beetle was collected on the Davis County Experiment Farm at Farmington, July 17, by Mr. M. J. Janes.

POTATO FLEA BEETLE (Epitrix cucumeris Harr.)

New York

C. R. Crosby (October): In general early broods of the flea beetles are less abundant than usual in Suffolk County. The late brood appeared in average abundance but did not cause much damage because of early death of potato vines. (W. G. Been)

TOBACCO FLEA BEETLE (Epitrix parvula Fab.)

Oregon

W. W. Baker (September 14-16): Present on potatoes at Suver, Grants Pass, and Talent, but as these were the only places where potatoes were examined in western Oregon, it is likely that the insect is much more widely distributed.

HORNWORMS (Protoparce sp.)

New Hampshire

P. R. Lowry (October 19): Tomato hornworms have been much less abundant in southeastern New Hampshire this year than usual.

New York

C. R. Crosby (October): The tomato worms are very numerous in many fields of late tomatoes in Suffolk County causing severe damage in late fields. (W. G. Been).

POTATO TUBER WORM (Phthorimaea operculella Zell.)

Maryland

J. E. Graf (October 9): Specimens received in potato tubers from Frederick County.

Virginia

T. L. Guyton (October 24): Recently a shipment of potatoes which were said to have originated on the Eastern Shore of Virginia were examined at Shippensburg, Pa., and were found to be heavily infested with the potato tuber moth. We do not know of this insect's occurrence in Pennsylvania other than in introduced potatoes.

F. W. Foos (October 13): Many times more abundant than during 1938 and 1939 when only a trace of this species was found in tobacco here (Arlington Farm). Some potato plants killed by this species (and brought) this year. Found in potato, tobacco, jimson weed, and *Datura innoxia*. This last host is probably a new record; at least for Virginia.

Maryland

L. H. Cory (October 30): The potato tuber moth is unusually abundant on the Eastern Shore of Maryland and has been reported from widely separated sections of the State - Frederick, Bonnie, Denton, Easton, and Snow Hill.

CABBAGE

IMPORTED CABBAGE WORM (*Pieris rapae* L.)

New York

Staff of Geneva Experiment Station (September 29): The cabbage butterfly is very abundant at Geneva and Hall.

C. R. Crosby (October): The green cabbage worms are normally abundant in Suffolk County.

Indiana

J. J. Davis (October 20): A report from Peru, dated September 29, advises us that cabbage worms have been very bad the past season on cabbage grown for canning factories.

Michigan

R. H. Pettit (October 20): The imported cabbage worm is moderately abundant.

Ohio

H. E. Jacques (October 25): The imported cabbage worm is very abundant in Carroll and Lucas Counties and moderately abundant in Mitchell County.

Mississippi

R. W. Harned (October 22): Serious injury to turnips was reported from Jackson on September 25.

R. B. Deen (October 13): The common cabbage worm has done considerable damage to mustard and turnips in the vicinity of Tupelo, causing total loss in many cases where spraying was not done.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

New York C. R. Crosby (October): The diamond-back moths caused average damage in seed-beds; severe in fields in Suffolk County. (W.G. Been)

CABBAGE LOOPER (Autographa brassicae Riley)

Maryland E. W. Cory (October 30): The cabbage looper has been injurious to cabbage and has caused considerable defoliation to the seed with potato crop in Worcester County.

New York C. R. Crosby (October): Cabbage loopers are normally abundant in seed-beds and fields and are causing injury to plants late in season in Suffolk County. (W. G. Been).

Virginia G. E. Gould (October 26): The cabbage looper continued to be injurious in October to several cruciferous crops, especially broccoli, cabbage, and kale. At present the loopers seem to be disappearing around Norfolk.

Illinois A. P. Flint (October 21): There has been a severe outbreak on spinach in the large spinach-producing area in southern Illinois. Mr. Chandler reports that many of the loopers are now infected with wilt disease and that the outbreak is subsiding.

Mississippi R. W. Harned (October 22): Complaints from all sections of the State in regard to injury to turnips, cabbage, and collards have been received at this office during the past month. We have no record to indicate that these insects have previously been as abundant or as serious in Mississippi as they are at the present time.

Texas S. T. Clark (October 3): Autographa brassicae is doing considerable damage to cabbage, particularly seed beds at Weslaco.

CABBAGE MAGGOT (Hyalemyia brassicae Bouche)

New York C. R. Crosby (October): The root maggot ordinarily causes severe loss in about 10 per cent of seedbeds, but this year damage was very slight. Damage also was slight on early-set cabbage in Norfolk County. (W.G. Been).

Iowa H. L. Jaques (October 25): The cabbage maggot is very abundant in Winnabago County.

PARLOR MOTH (Plutella histrionica Falm)

Mississippi R. W. Harned (October 22): Specimens were received from Jackson on September 25, and from Union on October 5. In each case serious injury to turnips was reported. Other reports indicate that these insects are very abundant throughout Mississippi at the present time.

J. E. McEvilly (October 18): The harlequin bug is very abundant on collards and turnips in Pike and White Counties.

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia

G. L. Gould (October 25): The cabbage aphid is exceedingly abundant at present in the Norfolk region and many growers claim they have the most severe infestation in years. A small field of rape was observed where many of the plants were wilting owing to the aphids, and the neighboring kale field had large colonies of aphids on practically every plant. Other crops severely infested are cabbage, rutabaga, and turnip.

GREEN PEACH APHID (Myzus persicae Sulz.)

Mississippi

R. W. Harned (October 22): A heavy infestation on collards was reported from Jackson on October 15.

STRAWBERRY

STRAWBERRY ROOT WORM (Paria canella Fab.)

Indiana

J. J. Davis (October 20): The rose root worm (Paria canella) was abundant and destructive to rose in the greenhouse at Vincennes October 14.

CYCLAMEN MITE (Tarsonemus pallidus Banks)

Washington

A. W. Baker (First two weeks in September, 1930): The cyclamen mite was found on overbearing varieties of strawberries in Puyallup, Sumner, and Tacoma. Progressives and Mastodons were the only varieties we were certain of but the mite was present in one field where we could not be sure of the variety. One patch of Progressives south of Tacoma which was abandoned three or four years ago was found to be infested though the others were comparatively young patches.

ASPARAGUS

ASPARAGUS BEETLE (Crioceris asparagi L.)

Iowa

H. E. Jaques (October 20): The asparagus beetle made its first appearance in Henry County this year. To us this has been very interesting since we have looked for it in particular every year for some considerable length of time. While the damage this year was nowhere marked, we found the beetles being brought in by several of our collectors.

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

- New York C. R. Crosby (October): The Mexican bean beetle is general and widespread in Suffolk County. Severe damage in a few fields. Second year noted on Long Island. Bad on limas. (W. G. Been)
- Staff of Geneva Experiment Station (September 29): The Mexican bean beetle is moderately abundant in Wallace.
- New Jersey T. J. Headlee (October 8): The Mexican bean beetle is moderately abundant.
- Delaware L. A. Stearns (October 20): The Mexican bean beetle is scarce at the close of the summer.
- West Virginia L. M. Peairs (October 20): The Mexican bean beetle is moderately abundant in Morgantown; hibernating in moderate numbers.
- Virginia G. E. Gould (October 23): The Mexican bean beetle is moderately abundant although becoming scarce in the fields about Norfolk. The number present in the fields this fall is greatly reduced over last year. A large percentage of beetles entering hibernation are newly emerged.
- Pennsylvania T. L. Guyton (October 24): The Mexican bean beetle nearly disappeared from the scene about Harrisburg this summer. In certain restricted localities where rain fell the beetles appeared on late-planted beans.
- Indiana J. J. Davis (October 20): The Mexican bean beetle is moderately abundant in general.
- Alabama J. M. Robinson (October 20): The Mexican bean beetle is scarce in northeastern Alabama.

A LEAFHOPPER (Empoasca mali LeB.)

- Florida J. R. Watson (October 20): The bean jassid seems on the whole to be rather less abundant than usual at this time of the year.
- Texas S. W. Clark (October 10): Infestations and abundance about normal, on beans at Weslaco.

BEAN APHID (Aphis rumicis L.)

- New York C. R. Crosby (October): The bean aphid is general and widespread on limas in Suffolk County but did not cause great loss. (W. G. Been)

MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Minnesota A. G. Ruggles (October 10): The striped cucumber beetle is very abundant on cucumber and squash on the University Farm.

Iowa H. E. Jaques (October 25): The striped cucumber beetle is particularly abundant in northern Iowa.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Connecticut W. L. Britton (October 25): The spotted cucumber beetle is reported as being more abundant as compared with last month on flowers of dahlia, late gladiolus, and other plants at Hamden and Westbrook.

Florida J. R. Watson (October 20): The spotted cucumber beetle is very abundant.

North Carolina Z. P. Metcalf (October 25): The spotted cucumber beetle has been a serious pest of roses this year in spite of the fact that the larvae did practically no damage in the State. This latter fact is correlated, we believe, with the very dry weather at the height of its breeding season.

MELON WORM (Diaphania hyalinata L.)

Mississippi E. Dietrich (October 20): The melon worm and the squash vine borer (Melittia satyriniformis Hbn.) together have completely killed an acre of squash planted for fall harvest in George County. Adults of the melon worm were present in large numbers on October 18.

MELON APHID (Aphis gossypii Glov.)

Mississippi G. L. Bond (October 16): Melon aphids are abundant on late melons in the Moselle vicinity.

SQUASH BUG (Anasa tristis DeG.)

Idaho The News Letter (Idaho University), Vol. 14, No. 9 (October): It has been found that the squash bug is well established over a wide area in Partridge and Gem Counties and that the infestation is so extensive that eradication is not feasible. It is probable that it occurs also in adjoining counties. (Claude Wakeland)

SQUASH BEETLE (Epilachna borealis Fab.)

South Carolina P. K. Harrison (September 28): The squash lady-bird beetle is reported on pumpkin and found at Fairfax, the heaviest infestation on pumpkin.

TURNIP

TURNIP APHID (Rhopalosiphum pseudobrassicae Davis)

Virginia

G. L. Gould (October 23): The turnip aphid is abundant on turnip, rutabaga, rape, and mustard in the Norfolk district.

CARROT

CARROT WEEVIL (Listronotus latiusculus Boh.)

New York

C. R. Crosby (October): Some slight injury noted in the western part of Suffolk County. (W.G.Been)

SPINACH

A NEGRO BUG (Panagaeus uhleri Sign.)

Virginia

G. L. Gould (October 23): A very unusual type of injury was observed in September by a small black burrower bug. These insects were attacking the newly-sprouted spinach seed in the Norfolk district and would kill the plant before the cotyledons could push through the soil. After a plant was through the soil, the bugs would not interfere with it. Often the insects, both nymphs and adults or both, would cluster around a seed and roll it away. They were first discovered September 10 and disappeared about October 1. They were so numerous in one field that the entire 43 acres had to be resown.

HAWAIIAN BEET WEBWORM (Hyphania fascialis Cram.)

Virginia

G. L. Gould (October 23): The Hawaiian beet webworm is present on spinach throughout the Norfolk region. Little damage has been observed from this insect, but the moths are abundant in the field.

SUGAR BEET

BEET LEAFHOPPER (Eutettix tenellus Baker)

Utah

G. F. Knowlton (October 20): Beet leafhoppers are becoming less abundant in the sugar-beet fields of northern Utah. Damage from curly-top has been severe in many parts of this State, and tonnages are low in the severely affected areas.

OKRA

A LEAF WORM (Anomis erosa Hbn.)

Louisiana M. L. Hines (October 29): Anomis erosa Hbn. has been taken commonly feeding on the foliage of okra at Baton Rouge. The life history and habits appear to be closely similar to those of Alabama argillacea, to which this species appears to be closely related.

F O R E S T A N D S H A D E - T R E E I N S E C T S

FALL WEBWORM (Hyphantria cunea Drury)

New Hampshire P. R. Lowry (October 19): The fall webworm infestation is normal in the southeastern part of the State.

Virginia C. R. Milley (October 21): Fall webworms are usually very plentiful in this section (Richmond) especially in the swamps but have been noticeably absent this fall.

WALNUT CATERPILLAR (Patana integririma G. & A.)

South Carolina P. M. Harrison (October 6): The walnut caterpillar is reported as attacking oak and pecan at Fairfax.

Mississippi State Plant Board of Mississippi Press Release (October 27): Walnut caterpillars were generally scarce or only moderately abundant. It was observed, however, that walnut caterpillar eggs in Stone County were hatching without any parasitism, which may indicate an abundance of these pests in the southern part of the State next year.

BUFFALO TREE-HOPPER (Cerese bubalus Fab.)

Nebraska M. H. Swenk (September 1 to October 15): A windbreak of Russian olives in Sarpy County was badly injured during the present season by the Buffalo tree-hopper.

ASH

ASH FLOWER MITE (Brachydes fraxiniflorae Malt)

Nebraska M. H. Swenk (September 1 to October 15): A Lincoln County correspondent reported the ash trees in his ward seriously affected by the ash flower gall mite.

EIM

POPLAR BORER (Saperda calcarata Say)

Nebraska M. H. Swenk (September 1 to October 15): Complaints of

damage to elm trees by the elm borer were received in about normal numbers during September.

EUROPEAN ELM SCALE (Gossyparia spuria Modeer)

Nebraska

M. H. Swenk (September 1 to October 15): At Grand Island, Hall County, the European elm scale was reported as again troublesome, not only on elms but on hackberries.

FIR

DOUGLAS FIR TUSsock MoTH (Hemerocampa pseudotsugata McD.)

Idaho

Monthly Letter of the Bureau of Entomology, No. 197 (September 1): Though large areas of timber have been destroyed in central Idaho, the outbreaks of the tussock moth Hemerocampa pseudotsugata McD. have been successfully reduced through the activity of beneficial insects. In some areas there was a little feeding by this moth in 1930, but it is believed that the epidemic in all areas is at an end.

Washington

Monthly Letter of the Bureau of Entomology, No. 197 (September): The Douglas-fir tussock moth has killed thousands of acres of fir on the Colville National Forest.

HACKBERRY

HACKBERRY NIPPLE GALL (Pachypsylla celtidis-mamma Riley)

Nebraska

M. H. Swenk (September 1 to October 15): A Sheridan County correspondent reported the leaves on his hackberry trees to be considerably deformed by hackberry nipple galls.

JUNIPER

JUNIPER SCALE (Diaspis carueli Targ.)

Ohio

E. W. Mendenhall (October 7): Juniperus ofitzeriana cuttings in one of the greenhouses at Painesville are badly infested with the juniper scale. The juniper stock in the nursery is badly infested and in this way it has been carried into the greenhouse.

MAPLE

MAPLE LEAF SPOT (Cecidomyia ocellaris O. S.)

Mississippi

R. A. Harned (October 22): Maple leaves infested with galls caused by Cecidomyia ocellaris were received on October 3 from Pittsboro.

OAKOAK SPANGLER (*Ellipsis somnaria* Hbst.)

Oregon

Am. W. Baker (September 14): Oaks near Unity and south of there for several miles were seriously defoliated by some species of looper, likely *Ellipsis somnaria* Hbst. Mature larvae, pupae, and moths were present.

A LEAF MINER (*Lithocollatis* sp.)

Mississippi

R. L. Harned (October 22): Live oak leaves infested with leaf miners belonging to the genus *Lithocollatis* were received from Laurel, on September 25. The correspondent indicated that practically all of the live oak trees in Laurel were infested with these insects.

PINEA FLAT-HEADED BORER (*Chrysobothris floricola* Gory)

Mississippi

Henry Dietrich (October 20): *Chrysobothris floricola* is extremely abundant in southeastern Perry County injuring young longleaf pines by chewing the needles near the base, after which the outer part turns brown and falls down. *Chalcophora virginiana* Drury and *C. liberti* Germ. are also very common on young pines but I could not observe them actually cutting needles in nature or breeding cases while I observed *C. floricola* in both cases. All Buprestidae bred up in slash of long leaf pine immediately adjoining, cut last spring and summer.

SOUTHERN PINE BEETLE (*Dendroctonus frontalis* Linn.)

Tennessee

and
North Carolina

Monthly Letter of the Bureau of Entomology, No. 127 (September): What is believed to be one of the largest outbreaks in recent years was found in Smoky Mountain Park. Of particular interest was an outbreak of this beetle found in spruce. This is the first record for this host in many years. Many local outbreaks in pine were found in various localities in western North Carolina and in eastern Tennessee.

MOUNTAIN PINE BEETLE (*Dendroctonus monticolae* Hopk.)

Washington

Monthly Letter of the Bureau of Entomology, No. 127 (September): The mountain pine beetle is causing severe damage to the pines both east and west of the Cascade Range.

HILL PINE SAWFLY (*Pissodes strobi* Pack)

Virginia

C. E. Wiley (October 21): Specimens of infested white pine and Norway spruce collected in Fairfax County, white pine in Botetourt County and Austrian pine from Augusta County--all specimens from nurseries.

PINE LEAF SCALE (Chionaspis pinifoliae Fitch)

Ohio

E. W. Mendenhall (September 26): I find an outbreak on pines on private property in Sidney, Shelby County.

SCOTCH PINE LECANIUM. (Toumeyella numismaticum P. & McD.)

Wisconsin

E. L. Chambers (October 30): Jack pine has been severely injured in many sections of the State by the Scotch pine scale, a pest which has never previously been recorded as doing any extensive injury in Wisconsin's forests.

SPRUCE

SPRUCE NEEDLE MINER (Epinotia nanana Tr.)

Maine

Monthly Letter of the Bureau of Entomology, No. 197 (September): C. E. Hood and J. V. Schaffner, jr., spent September 23 and 24 in vicinity of Boothbay and Pemaquid, Me., making observations on the occurrence of the so-called spruce webworm, Epinotia nanana Tr.

SPRUCE LEAF MINER (Recurvaria piceaella Kearf.)

Nebraska

M. H. Swenk (September 1 to October 15): Investigation during the past summer showed that some Colorado blue spruce trees in Lincoln were in a number of instances seriously infested.

SPRUCE BUDWORM (Harmolops funiferana Clem.)

Wisconsin

E. L. Chambers (October 30): Large tracts of spruce, pine, and balsam in Douglas and Bayfield Counties have been defoliated by the spruce budworm.

INSECTS AFFECTING GREENHOUSE AND

OUTDOOR PLANTS AND LAWNS

BLISTER BEETLES (Meloidae)

Virginia

C. R. Gilley (October 31): We have had no complaints about these pests, which is unusual, especially during the dahlia blooming season.

AN APHID (Prociphilus erigeronensis Thomas)

Indiana

J. J. Davis (October 30): Root aphids (P. erigeronensis) reported destructive to dahlia, aster, and other flowering plants at Greenfield the past season.

OSTER-SHELL SCALE (Lepidosaphes ulmi L.)

J. J. Davis (October 30): The oyster-shell scale was reported destructive to peony at Frankfort, September 26, and to lilac at Brownsburg, September 30.

CITRUS MEALYBUG (Pseudococcus citri Risso)

E. A. Mendenhall (October 10): I find that the variegated English ivy is subject to the mealybugs (Pseudococcus citri Risso). The ivy in one of the greenhouses in Painesville is badly infested.

J. J. Davis (October 20): Mealybugs were reported damaging chrysanthemum and other plants at Evansville, Charubusco, and Richmond, September 27 to October 8.

OLEANDER SCALE (Aspidiotus hederae Vall.)

E. A. Mendenhall (October 8): I find that the variegated ivy plants in one of the greenhouses in Painesville, Lake County, are infested with oleander scale.

CAMELLIA

(LEPIDOSAPHES CAMELLIAE BOISD.)

SCALES (Lepidosaphes camelliae Boisd.)
(Florinia floriniae Targ.)

R. F. Colmer (October 18): Floriniae scale (F. floriniae) is abundant on Camellia japonica in the vicinity of Moss Point and Pascagoula. Also Camellia scale L. camelliae.

A TORTRICID (Tortrix cockerellana Kearf.)

M. H. Spenk (September 1 to October 15): A case of infestation of cedar trees with the larvae of Oleasis cockerellana, the fifth such instance during the past four years, was found in Frontier County early in September.

CORYTHAUCHA

CORYTHAUCHA MEEBBUG (Corythucha pumilata Uhler)

D. J. Grimes (October 20): Corythucha pumilata is slight to abundant on chrysanthemums at Durant and Lexington.

COLEUS

A MEALYBUG (Phenacoccus gossypii Tns. & Chll.)

Mississippi Henry Dietrich (October 30): Mealybugs destroyed coleus at several places in Lucedale.

CREPE MYRTLE

CREPE MYRTLE APHID (Myzocallis kahawaluokalani Kirk.)

Mississippi R. W. Harned (October 22): Crepe myrtle leaves infested with this aphid were received from Canton on October 7.

DEODAR

A BEVIL (Pissodes sp.)

North Carolina C. H. Brannon (October 15): This insect is causing severe damage to deodar in Robeson County. (Determined by W. Middleton.)

EUONYMUS

EUONYMUS SCALE (Chionaspis euonymi Comst.)

North Carolina E. F. Metcalf (October 25): The euonymus scale is a more serious pest this fall than usual.

FERN

HEMISPHERICAL SCALE (Saissetia hemisphaerica Targ.)

Indiana J. J. Davis (October 20): The fern scale (apparently Saissetia hemisphaerica) was reported as very abundant on house sword fern at Kokomo, October 6.

LANTANA

GREENHOUSE ORTHEZIA (Orthezia insignis Dougl.)

Mississippi R. W. Harned (October 22): A heavy infestation of Orthezia insignis on lantana was reported by a correspondent at Meridian, on October 4.

LILAC

LILAC BORER (Podosesia syringae Harr.)

Nebraska

M. H. Swenk (September 1 to October 15): At Norfolk, Madison County, early in September the lilac borer was reported as having destroyed a number of fine lilac bushes.

NARCISSUS

LESSER BULB FLY (Lumerus strigatus Fallén)

Ohio

E. W. Mendenhall (September 26): There is a good deal of infestation by the lesser bulb fly found in narcissus at Dayton, Montgomery County. (October 7): I find the name "lesser bulb fly" popularly given to two species of bulb-flies, E. strigatus Fallén and E. tuberculatus Rond. in narcissus bulbs in a nursery in Painesville (Lake County).

NARCISSUS BULB FLY (Merodon equestris Fab.)

Ohio

E. W. Mendenhall (October 7): The larger bulb-fly is found in narcissus bulbs in a nursery at Painesville (Lake County).

BULB MITE (Rhizoglyphus hyacinthi Boiss.)

Ohio

E. W. Mendenhall (October 7): The bulb mites are quite numerous in the narcissus bulbs in a nursery at Painesville (Lake County).

Mississippi

Henry Dietrich (October 30): The bulb mite is common on daffodil bulbs on farm in southern George County.

INSECTS ATTACKING MAN AND

DOMESTIC ANIMALS

MAN

MOSQUITOES (Culicinae)

Mississippi

Henry Dietrich (October 20): Shortly after rains, mosquitoes became very numerous and annoying about Lucedale. Had been very scarce all summer. During drought all sink holes and roadside ditches dried up. Streams that formed pools had no larvae present, owing to fish. After heavy and continuous rains in September sink holes and roadside ditches were rain-filled and still are.

POULTRY

FOWL TICK (*Argas miniatus* Koch)

Mississippi

A. W. Harner (October 22): Specimens of the fowl tick were received from Brookhaven during the past week. Details in regard to the extent of this infestation or its origin have not been learned.

HOUSEHOLD AND STORED -

PRODUCT INSECTS

TERMITES (*Reticulitermes* spp.)

Indiana

J. J. Davis (October 20): Termites reported damaging dwelling at Evansville, September 30.

COCKROACH (*Clown's* sp.)

New York

C. R. Crosby (October 20): I am again beginning to receive specimens from Yates County. Four specimens have come in so far this fall.

CADALLE (*Tenebroides mauritanicus* L.)

Indiana

J. J. Davis (October 20): The cadelle larvae (*Tenebroides mauritanicus*) were received from Crawfordville, September 30, where they were reported infesting wheat.

RICE WEEVIL (*Calandra oryzae* L.)

Mississippi

C. W. Lind (October 16): The rice weevil is especially abundant in cornfields in the vicinities of Waynesboro and Laurel

State Plant Board of Mississippi Press Release (October 27): The rice weevil or ordinary corn weevil was reported as very abundant in cornfields in the southern part of the State and the Plant Board has advised early harvesting and fumigation.

AUSTRIAN MITE (*Tyroglyphus lintneri* Osb.)

Kentucky

J. H. Wrist (October 26): Eight hundred old Kentucky hams were found to be pretty well inhabited by a mite, *Tyroglyphus lintneri* Osb.

THE INSECT PEST SURVEY
BULLETIN

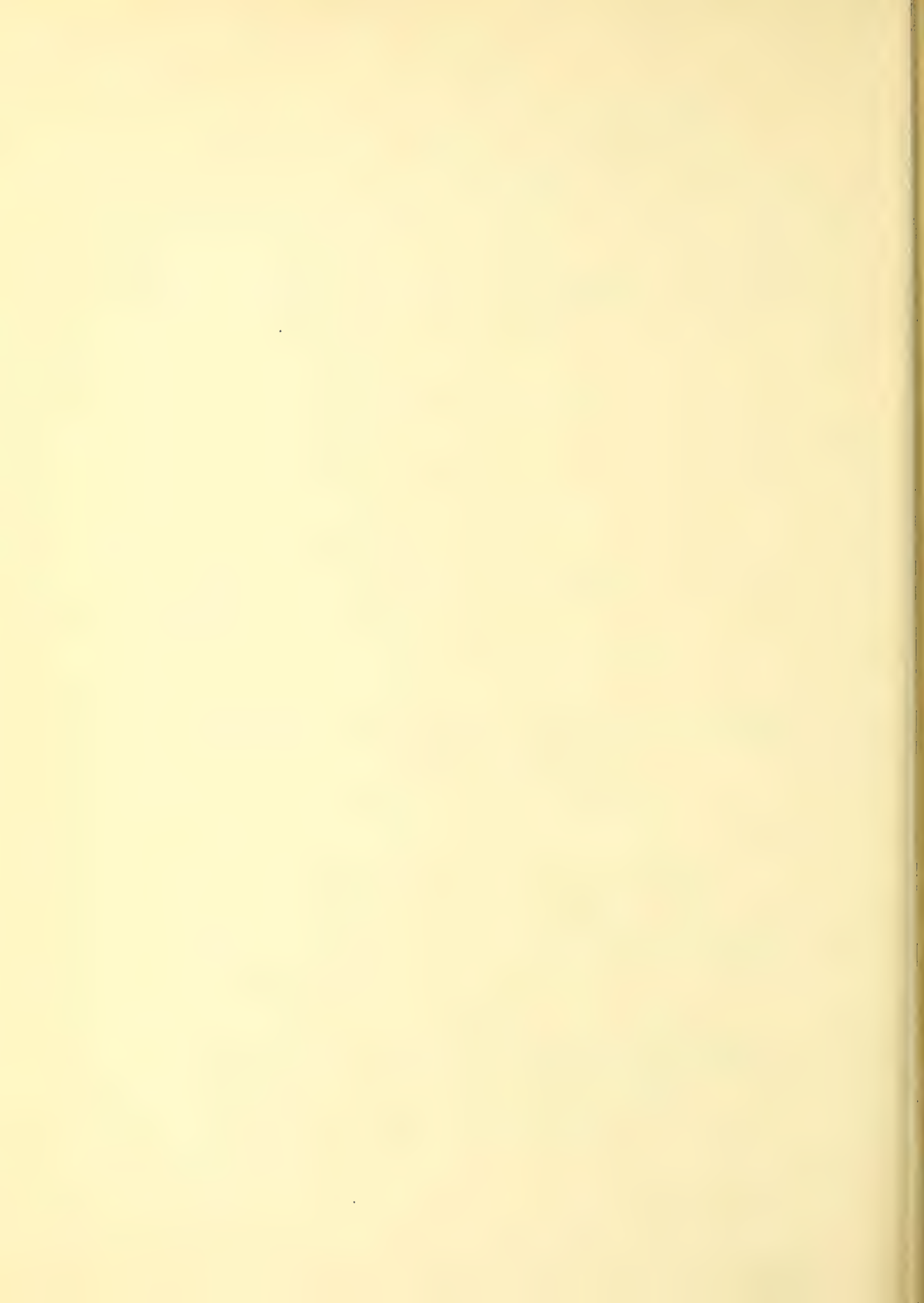
A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

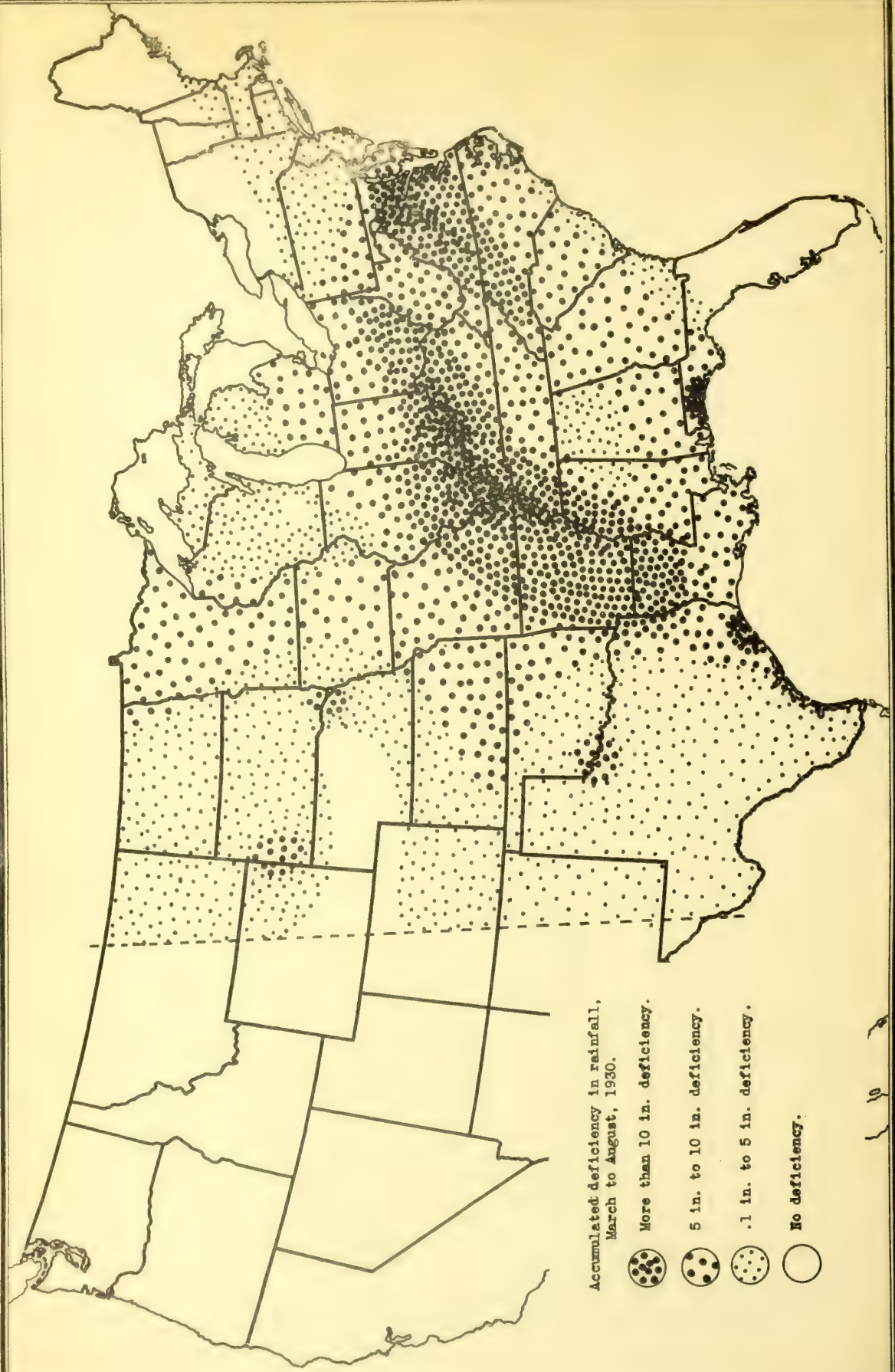
Volume 10

Summary for 1930

Number 10

BUREAU OF ENTOMOLOGY
UNITED STATES
DEPARTMENT OF AGRICULTURE
AND
THE STATE ENTOMOLOGICAL
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INSECT PEST SURVEY BULLETIN

Vol. 10

Summary for 1930

No. 10

INTRODUCTION

The year 1930 had as its most conspicuous feature a prolonged and disastrous drought, probably the worst since 1901. All the country east of the Rockies except the extreme Northeast and Southeast was more or less affected; the Ohio River and lower Mississippi River Valleys, and Maryland and Virginia, suffered most. Water supply, as well as crops, was affected and economic effects were profound. It seems likely that effects upon insects and other animals, and upon plants, will be marked, and that they may in some cases persist several years. This effect has already become evident in the case of the Mexican bean beetle, the codling moth, the oriental fruit moth, and the European corn borer.

January was below normal in temperature over most of the country, especially in the West; a large area from northern Texas to eastern Washington was 10 degrees or more below normal. The cold was steady and snow cover was rather general, and winter grain suffered little. Rainfall was heavy in the lower Mississippi River and Ohio River Valleys. February was almost the reverse of January in temperature, with the prairie States far above normal; moisture was deficient in the Great Plains, the Rockies, and the south Atlantic region.

March temperature was near normal; but rainfall was variable, and deficient over most of the country. Seasonable rains failed to occur in the plains States, to the great detriment of winter wheat in the southern part. April was well above normal in temperature, especially in the Great plains; moisture was variable and generally deficient. The drought was relieved late in the month in many areas west of the Mississippi, but continued in the Ohio River and lower Mississippi River Valleys, and moisture became scanty in the Middle Atlantic States. May was marked by variable temperatures, averaging not far from normal; by deficient rainfall in the middle and south Atlantic region, the Ohio River and middle Mississippi River valleys, and the lower Great Lakes region, with more plentiful rains to the west and south, and excessive rainfall in the lower Mississippi River Valley.

June temperatures were not far from normal; rainfall was deficient in the Ohio River valley and almost absent in the lower Mississippi River

Valley, but was fairly well maintained elsewhere. July was very hot, with temperatures from 2 to 6 degrees above normal over most of the country, and rainfall was very scanty except on the southeast coast and in the southern Rockies. August was somewhat warmer than normal over most of the country, with variable and deficient rainfall. Some areas, especially in the Great Plains region, received good rains; but the drought continued to be severe in the Ohio River and lower Mississippi River Valleys, and in parts of the Middle Atlantic section.

During the fall months there has been partial relief from the drought in ~~most~~ places west of the Appalachians, but it continued severe in Maryland and Virginia. A cold wave late in November carried temperatures down to levels typical of mid-winter over most of the country east of the Rockies, but apparently caused no unusual damage.

GRASSHOPPERS

In spite of indications during the late fall of 1929, grasshopper damage in the Northwest did not prove to be at all serious. The only outbreaks of importance occurred in northern Michigan and northeastern Colorado during the early summer. As the summer advanced more serious outbreaks were reported from northeastern Colorado, northeastern Wyoming, southwestern Montana and parts of Nebraska, South Dakota, Oklahoma, and Arizona, with localized outbreaks in Utah and southern California. In the fall a serious outbreak developed in Idaho, and reports of minor damage were received from practically the entire northern half of the United States. During October very severe defoliation of young citrus occurred in many parts of Florida.

"The survey made in North Dakota indicates that although grasshoppers were only locally troublesome during 1930, their numbers are generally increasing over the western part of the State to such an extent as to make possible serious damage in 1931 if favorable spring weather conditions prevail." 1

"In western Montana more grasshoppers were present during the latter part of the summer than at any time since the series of bad outbreaks that began in 1917 and ended in 1925, according to a report of a survey.

In north-central Montana there is also a great increase in grasshopper populations. In the irrigated sections the red-legged grasshopper, (Melanoplus femur-rubrum DeG.) and two-striped grasshopper, (Melanoplus bivittatus Say) were dominating the situation. In the dry land sections the lesser migratory grasshopper, (Melanoplus mexicanus atlanis Riley) is decidedly on the increase and is approaching numbers similar to those which preceded the outbreak of 1922 to 1925, when this species devastated practically the entire area. In the eastern part of Montana grasshoppers were increasing but not to the point that a general outbreak was indicated. It is felt that 1931 will be a critical

1 R. L. Shotwell, Bureau of Entomology, U. S. D. A.

year from the standpoint of grasshopper abundance. In many localities enough eggs have been laid to provide for an enormous possible increase if weather conditions should prove favorable. On the other hand, it is entirely possible that unusually warm weather in April may cause premature hatching of the eggs, or that a prolonged period of wet weather after the normal hatching period may so reduce their numbers as to wipe out the gains in population made during the past season of weather favorable to them." 1

MORMON CRICKET

The mormon cricket (Anabrus simplex Held.) appeared in very threatening numbers in Montana but by the end of July the outbreak was completely under control. The serious outbreak in northwestern Colorado has also been brought under practical control by cooperative action of the State of Colorado and the Bureau of Entomology. The outbreak which formerly covered rather extensive areas in Moffat and Routt Counties, Colorado, has now been reduced to the Blue Mountain section of Moffat County. This pest also damaged potatoes in Davis County, Utah.

WHITE GRUBS

Many reports of defoliation, particularly of pecan trees, by May beetles, were received from Georgia westward through the Gulf region, and the larvae of these insects were reported as unusually numerous in the North-Central States during May. Injury by white grubs continued to be serious in the North-Central States throughout the early summer from Indiana westward to Iowa and Nebraska and northward into southern Minnesota and Wisconsin. This damage continued to be reported until the close of the season.

WIREWORMS

Reports of damage by wireworms were received from Florida and Mississippi during April, and as the spring advanced reports were received from practically all parts of the country east of the Rocky Mountains. In south-central and southern Illinois several thousands of acres of corn was replanted on account of these insects, and similar damage occurred in parts of South Dakota. Wireworms attracted considerable attention in the irrigated districts of southern Idaho during May. Although the sand wireworm (Horistonotus uhlerii Horn) did unusually severe damage to a variety of crops in South Carolina this year, the wireworm Monocrepidius vespertinus Fab. was conspicuously scarce in the bright tobacco district of South Carolina.

1 J. R. Parker, Bureau of Entomology, U. S. D. A.

"The wireworm Heteroderes laurentii Guer., which was first discovered in the United States in the fall of 1927, has become very abundant in certain sections of the Gulf Coast States. It is not known just when this insect was introduced, but scouting during 1930 has shown the insect present in the following States and counties: In Alabama in Baldwin and Mobile Counties; in Mississippi in Jackson, George, and Harrison Counties; in Florida in Escambia, Walton, Jackson, and Holmes Counties. All identifications of specimens from Florida have been made from larvae, since scouting was done there during the period when adults were not plentiful in the field. In the other States mentioned, adults as well as larvae have been collected. During 1930 the insect was very abundant in Baldwin and Mobile Counties, Alabama. Soil sifting has shown a population in some fields as high as 10 larvae per square foot in the top 4 inches of soil. The amount of damage or injury caused by the insect to various crops is very hard to determine, since observations along that line have not been completed. It is safe to say, however, that considerable damage is done where such a heavy population is found." 1

PLAINS FALSE WIREWORM

Similar to the conditions reported in 1929, the Plains false wireworm (Eleodes opaca Say) did very little damage throughout its entire range this season. It was reported as moderately abundant in wheat at Ulysses, Kans., and the beetles were observed in unprecedented numbers in the entire wheat area of the panhandle of Texas.

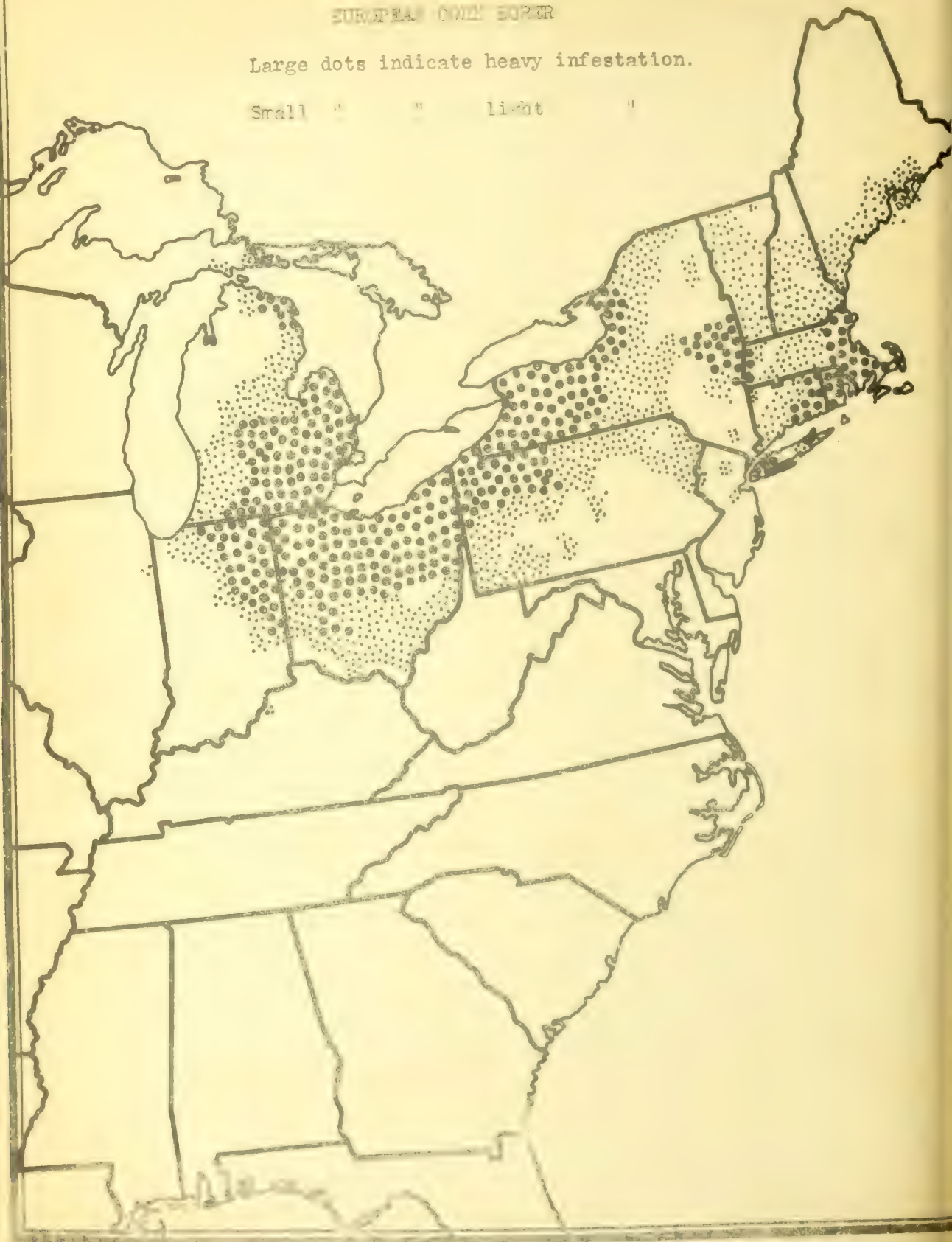
CUTWORMS

The pale western cutworm (Parosagrotis orthogonia Morr.) and the army cutworm (Chorizagrotis auxilialis Grt.) were appearing in destructive numbers in several Western States from Oklahoma to Nebraska during late March, and other species were reported as appearing in unusual numbers in the Gulf region during that month. As the season advanced, the usual number of spring reports were received from practically all parts of the country. Toward the end of May damage by the pale western cutworm was reported from parts of Montana. These cutworm depredations continued until the early part of June, especially from the Dakotas and Nebraska, and westward into . During the summer the variegated cutworm (Lycophotia margaritosa Haw.) rather severely damaged alfalfa in the southern tier of counties of Nebraska, and the black cutworm (Agrotis ypsilon Rott.) attacked corn and cotton in Mississippi. During the fall months this species seriously injured over 2,000 acres of lettuce land west of Phoenix, Ariz. During August the pale western cutworm was locally injurious in Utah, and the Bertha armyworm (Barathra configurata Walk.) occurred in outbreak numbers in the northeastern corner of North Dakota.

EURYPEA OWEN BORER

Large dots indicate heavy infestation.

Small " " light "



EUROPEAN CORN BORER

"The spread of the European corn borer (*Pyrausta nubilalis* Hbn.) during 1930 was retarded by the drought. To the westward, the insect was discovered in a single new township of each of the following Indiana counties: Delaware, Fayette, Fulton, Hamilton, Porter, Pulaski, and Rush; it was also found in nine townships of Madison and Henry Counties. In Ohio it nearly or quite reached the Ohio River in Adams, Clermont, Gallia, and Meigs Counties and was found in new townships in Highland, Pike, and Jackson Counties. It also crossed the Ohio River into three districts of Lewis and Bracken Counties, Ky. New infestations were discovered in six townships in Mason, Wood, Ritchie, and Tyler Counties, W. Va.; in eleven townships in Lehigh and Northampton Counties, Pa.; and in eight townships in Warren, Hunterdon, and Essex Counties, N. J. The one-generation strain spread eastward in the northwestern part of Litchfield County, Conn., and the two-generation strain spread westward in Connecticut in Tolland, Hartford, and New Haven Counties, as well as extending along Long Island Sound into Fairfield County. The only infestations found outside of the States now under quarantine were those in Kentucky, along the Ohio River. It is believed that these outbreaks arose through spread by the river. The degree of infestation in the 1930 corn crop as compared to that of previous years, according to this year's survey, shows that there has been an average reduction in corn-borer abundance of approximately 25 per cent as compared to 1929. Decreases of approximately 21, 58, and 29 per cent were indicated for Michigan, Ohio, and Pennsylvania, respectively, and increases of approximately 33 and 11 per cent were indicated for Indiana and New York, respectively. These differences were brought about by variations in the drought conditions. The larval survival in 1930 on the corn at the European corn borer demonstration farm at Toledo was reduced to 4 per cent as compared to 25 per cent on the same variety of corn in 1929. The reduction appears to be due largely to the extremely hot, dry spring and summer, the heat being so intense as to prevent a considerable percentage of the eggs from hatching in many areas and causing the death of a large number of young larvae. In the two-generation area in New England, comprising Maine, New Hampshire, eastern Massachusetts, Rhode Island, and Connecticut, there has been a general decrease in infestation, although an increase occurred in a part of the area. In eastern Massachusetts Bristol, Middlesex, and Norfolk Counties show an increase, while Plymouth, Dukes, and Nantucket Counties show considerable decrease. In Rhode Island there is also a great decrease in infestation, which is largely due to good clean-up measures during the winter months, and unfavorable conditions for the first generation. Commercial damage to some extent in corn was observed in some of the counties in southern Massachusetts and Rhode Island, especially by the second generation. The commercial damage in the one-generation area in the Great Lakes section was very slight.

"Below is shown the status of infestation, by States, in 1929 and in 1930, in terms of the average number of borers per 100 plants.

One-generation area:

	<u>1929</u>	<u>1930</u>
Michigan	15.68	12.41
Indiana	.57	.76
Ohio	12.89	5.40
Pennsylvania	.96	.68
New York	9.21	10.23

Two-generation area:

	<u>1929</u>	<u>1930</u>
Connecticut	8.66	4.43
Maine	2.56	.01
Massachusetts	235.61	135.16
New Hampshire	11.74	1.43
Rhode Island	187.36	42.10 " 1

FALL ARMYWORM

During late June the fall armyworm (Lophyga frugiperda S. & A.) started attacks in outbreak numbers in the Gulf region and the South Atlantic States. The infestation in Florida was the most severe since 1912. Later in the summer this insect also did much damage in the Lower Rio Grande Valley of Texas and outbreaks were reported from other sections, and by fall it was quite generally prevalent over the Middle Atlantic and East Central States. Apparently the long, dry summer prevented the growth of succulent grass in pasture lands and caused the moths to lay their eggs on small patches of any green food available. As a result, hundreds of lawns were seriously over-run by an unusual number of caterpillars. Fall-sown wheat and other small grains which were planted for early fall pasture also became rather heavily infested.

VELVETBEAN CATERPILLAR

The velvetbean caterpillar (Anticarsia gemmatilis Hbn.) was very decidedly less troublesome this year in the Gulf region where the most serious outbreak on record was recorded last year. It appeared this year, however, in destructive numbers in some districts of Louisiana and Oklahoma.

CORN EAR WORM

During the latter part of April the corn ear worm (Heliothis obsoleta Fab.) was appearing in moderate numbers over the southern part of Florida. During May it was reported quite generally prevalent in the southern part of the Gulf States and in southern and central Texas. By the middle of July it was appearing in destructive numbers in the Carolinas and corn

being shipped into the Northern States from the Gulf region was found to be 40 per cent infested. During July more or less damage was reported from the southern half of the United States east of the Rockies. By October this insect was observed in noticeable numbers in southern New Hampshire for the first time since 1922 and at that time it was quite prevalent throughout the remainder of the New England and Middle Atlantic States. In the intensive truck-growing district of Long Island it was causing a loss of at least one-third of the crop of sweet corn. Generally heavy infestations during the fall were reported westward as far as Indiana, Kentucky, Michigan, Wisconsin, and Nebraska.

COTTON LEAF WORM

The cotton leaf worm (Alabama argillacea Hbn.) was prevalent in practically all fields in the lower Rio Grande Valley during the last week in June. It was not reported from the Gulf States until July. A very heavy infestation in south-central and southeastern Arizona resulted in an estimated loss of 30 per cent in the cotton yield. A northward flight of the moths started in September. By the 14th of the month the insect was reported from central Missouri, on the 15th in southern Illinois, by the 23rd of the month it had reached the District of Columbia, and the next day it was reported from southern Michigan and north-central New York. On September 25 it appeared in the Connecticut River Valley at Amherst and along the coast at Boston, and late in the month it appeared in southern Ontario, Canada. A second flight of these moths appeared in southern Illinois on October 13 and 14 and later in the month the moths did serious damage to late strawberries, apples, and pears in Wisconsin.

SUGARCANE BORER

Reports during the very early spring months indicated that the sugarcane borer (Diatraea saccharalis Fab.) had suffered heavy winter mortality in Louisiana. As the spring advanced the borer was found to be at a very low ebb in the Everglades district of Florida, only one point, near Sarasota, showing heavy infestation. By the middle of August the infestation was so low in Louisiana that the general infestation was estimated at not over 2 per cent of the stalks infested. At that time eggs were scarce and parasitism by Trichogramma minutum Riley was very high.

HESSIAN FLY

"The infestations of the Hessian fly (Phytophaga destructor Say) throughout the Middle Atlantic States, including West Virginia, Virginia, and North Carolina, are so light as to cause no anxiety to wheat growers this coming season, and, except for the State of New York, a slight decrease in the amount of Hessian fly infestation has been found." 1

1 C. C. Hill, Bureau of Entomology, U. S. D. A.

"In general, infestation in the East or Central States was too light to affect yields, particularly in the northern portion of this region. While infestations ran noticeably higher in the southern portion, material injury was restricted to occasional fields, except in southern Illinois, where it was general in some localities. There did not seem to be much danger of serious infestation in the fall in southern Michigan and in the northern portions of Ohio, Indiana, and Illinois. The somewhat greater abundance of the fly in the southern parts of these States and in Kentucky and Tennessee, however, especially in some localities, made heavier infestations in the fall more likely in that region. However, later observations indicate that infestation is very low throughout this territory with the single exception of west-central Illinois, where infestations are severe. Parasitism is normal, which means that it is an important but not a controlling factor. From our general knowledge of conditions it is our opinion that the averages shown in Table 1 for southern Illinois, southern Kentucky, and southern Tennessee are much too high to represent the true situation." 1

"There was not as much gain in infestation in Missouri as was to be expected from the conditions of last fall (1929). The cause for this was apparently unfavorable weather conditions during the spring and early summer months. Infestations were noticeably higher in east-central and southwestern Missouri than elsewhere in that State. In general, less than 25 per cent of the wheat stems were infested, although in occasional fields infestation ranged high as from 42 per cent to 90 per cent. Only in such occasional fields was the united infestation by fall and spring broods high enough to affect the yield. The infestation in Kansas, in general was low. The yields were not measurably affected by the fly, except in two localities where the maximum infestations found in the State occurred. These localities were Hiawatha, in the extreme northeast, and Colby, in the extreme northwest portions, respectively. These high infestations, in both cases, represent sudden outbreaks of the fly at localities from which it has been almost totally absent for several years. Although the samples representing Hiawatha were taken from experimental fields only, these were not grown under conditions especially favorable to the fly; the highest infestations found in northwestern Kansas were from field samples. In Nebraska the infestation was, in general, exceptionally high for that State. The yields will probably be affected in most of the experimental plots. It is believed that at the only locality in which the infestations did not exceed 27 per cent of the culms, the lower infestation was due to systematic rotation of crops and general excellence of farming, together with comparative isolation from other wheat fields. The fly is, for all practical purposes, absent from Oklahoma wheat fields, except in the extreme northeastern portions. In the experimental plots of this section the infestation ranged from 19 to 38 per cent of the stems. There is reason to believe, however, that these plots are subject to local conditions which tend to keep the infestation abnormally high." 2

1 C.M. Packard, Bureau of Entomology, U. S. D. A.

2 J. R. Horton, Bureau of Entomology, U. S. D. A.



ALFALFA WEEVIL

Known distribution to December 31, 1930.

TABLE I. - Summarized figures on infestation by the Hessian fly.

<u>District</u>	<u>Per cent of</u> <u>straws infested.</u>	<u>District</u>	<u>Per cent of</u> <u>straws infested.</u>
New York (1) - - - -	5	Southern Michigan (3)	4
Pennsylvania (2) - - -	2	Northern Kentucky (3)	15
Maryland (2) - - - -	1	Southern Kentucky (3)	52
Delaware (2) - - - -	2	Northern Tennessee (3)	3
West Virginia,		Southern Tennessee (3)	28
panhandle (2) - - -	1	Southern Missouri (4)	21
Virginia (2) - - - -	2	Central Missouri (4)	19
North Carolina (2) - -	2	Northwestern Missouri (4)	14
Northern Ohio (3) - - -	10	Southeastern Nebraska (4)	41
Southern Ohio (3) - - -	18	Western Kansas (4) - -	14
Northern Indiana (3) - -	7	Eastern Kansas (4) - -	10
Southern Indiana (3) - -	17	Northern Oklahoma (4)	4
Southern Illinois (3) - -	47		

GREEN BUG

Early in March the green bug (Toxoptera graminum Rond.) was reported as being very abundant in south-central Kansas, and during late June and early July it became more prevalent than in several years in parts of Minnesota, the Dakotas, Nebraska, and Colorado. Very considerable damage was done in many districts.

CHINCH BUG

The chinch bug (Blissus leucopterus Say) has shown no unusual prevalence during the past year over the greater part of the chinch bug belt. However, in parts of Illinois, Missouri, and Oklahoma the insect seemed to be decidedly on the increase, and early in October a heavy flight to hibernating quarters was observed in Illinois. A small outbreak of this insect attacking St. Augustine grass was also reported late in the season from Fairfax, S. C.

ALFALFA WEEVIL

"The principal development of interest regarding the alfalfa weevil (Phytonomus rusticus Gyll.) has been the discovery that an overwhelming percentage of parasitism may be completely offset in its economic effect by weather conditions. It is also interesting to record that alfalfa

- (1) C. R. Crosby, Cornell University.
- (2) C. C. Hill, Bureau of Entomology, U. S. D. A.
- (3) C. M. Packard, Bureau of Entomology, U. S. D. A.
- (4) J. R. Horton, Bureau of Entomology, U. S. D. A.

weevils cannot be found by intensive search in the screenings from fall potatoes, and that there is a minimum of danger of including live weevils in alfalfa meal found in portable mills and blown into freight cars in bulk."¹

SOUTHERN CORN LEAF BEETLE

A rather unusual outbreak of the southern corn leaf beetle (Myochrous denticollis Lec.) was reported from Indiana. In one field 90 per cent of the corn was eaten off below the ground by these beetles. Similar damage was reported from Kentucky and from Clermont County, Ohio. It was also reported from Missouri.

CODLING MOTH

During the later winter months of 1929-30 it was evident that winter mortality of the codling moth (Carnocampa pomonella L.) was extremely high in parts of Indiana and Illinois, in many places all of the larvae having been killed. Similar high mortality was reported from the Pacific Northwest and the Great Basin, but mortality of the larvae in the Pacific Northwest was recorded from above the snow line, and as there was considerable snow over this region the actual survival was above normal. By the latter part of March the larvae were starting to pupate in New Mexico. As the season advanced the second brood picked up very materially and by the middle of July they were emerging in threatening numbers in the East-Central States. The unusually hot, dry weather that prevailed over a great deal of the country seems to have stimulated this insect, and very severe late damage was reported from practically the entire drought area, and New York State, during August. On the other hand, in the Pacific Northwest late infestation was reported to be much below normal. Eggs continued hatching during the first two weeks of September in Indiana, Illinois, and Kentucky, and moths were still emerging during the third week of that month in central Ohio.

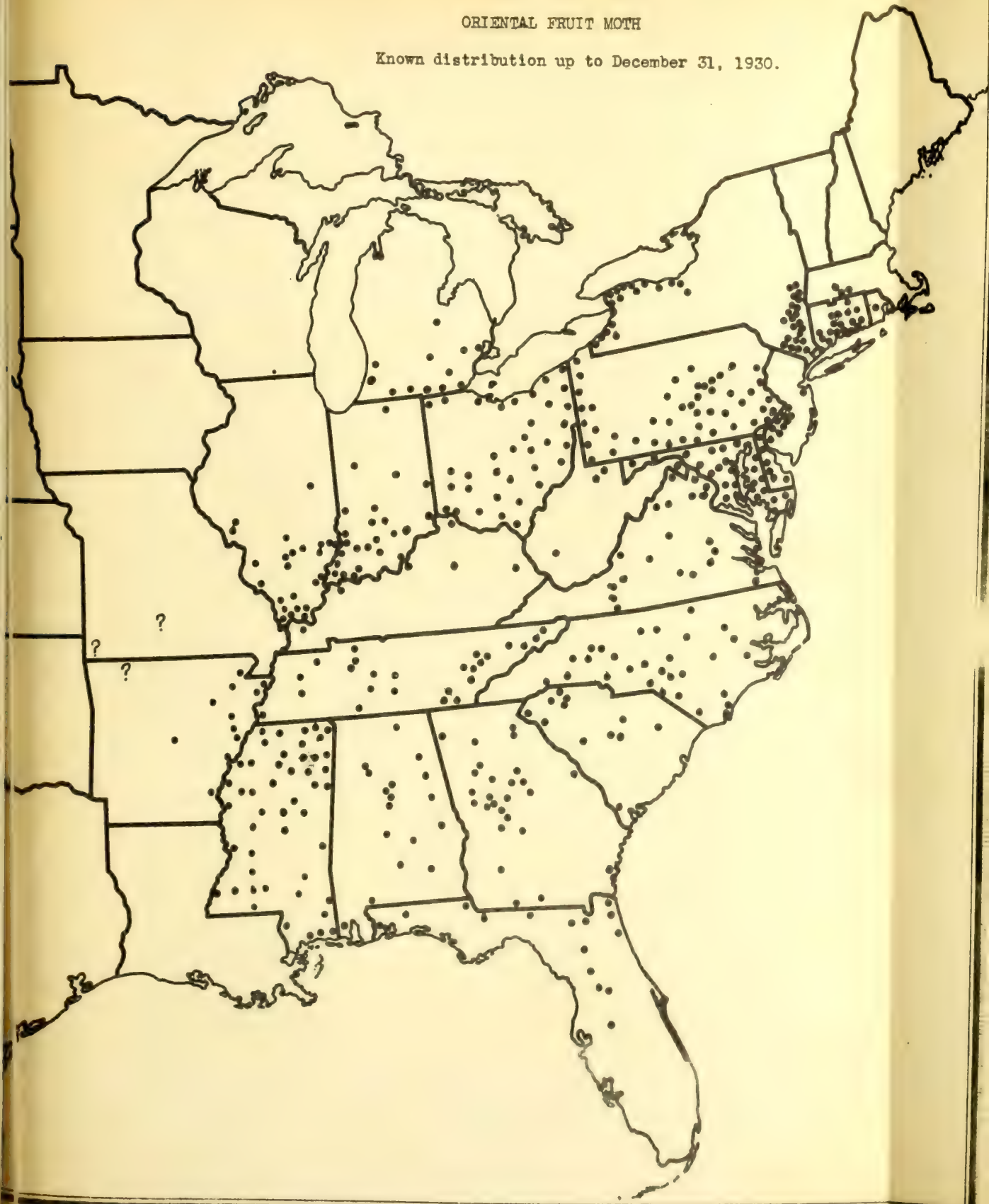
ORIENTAL FRUIT MOTH

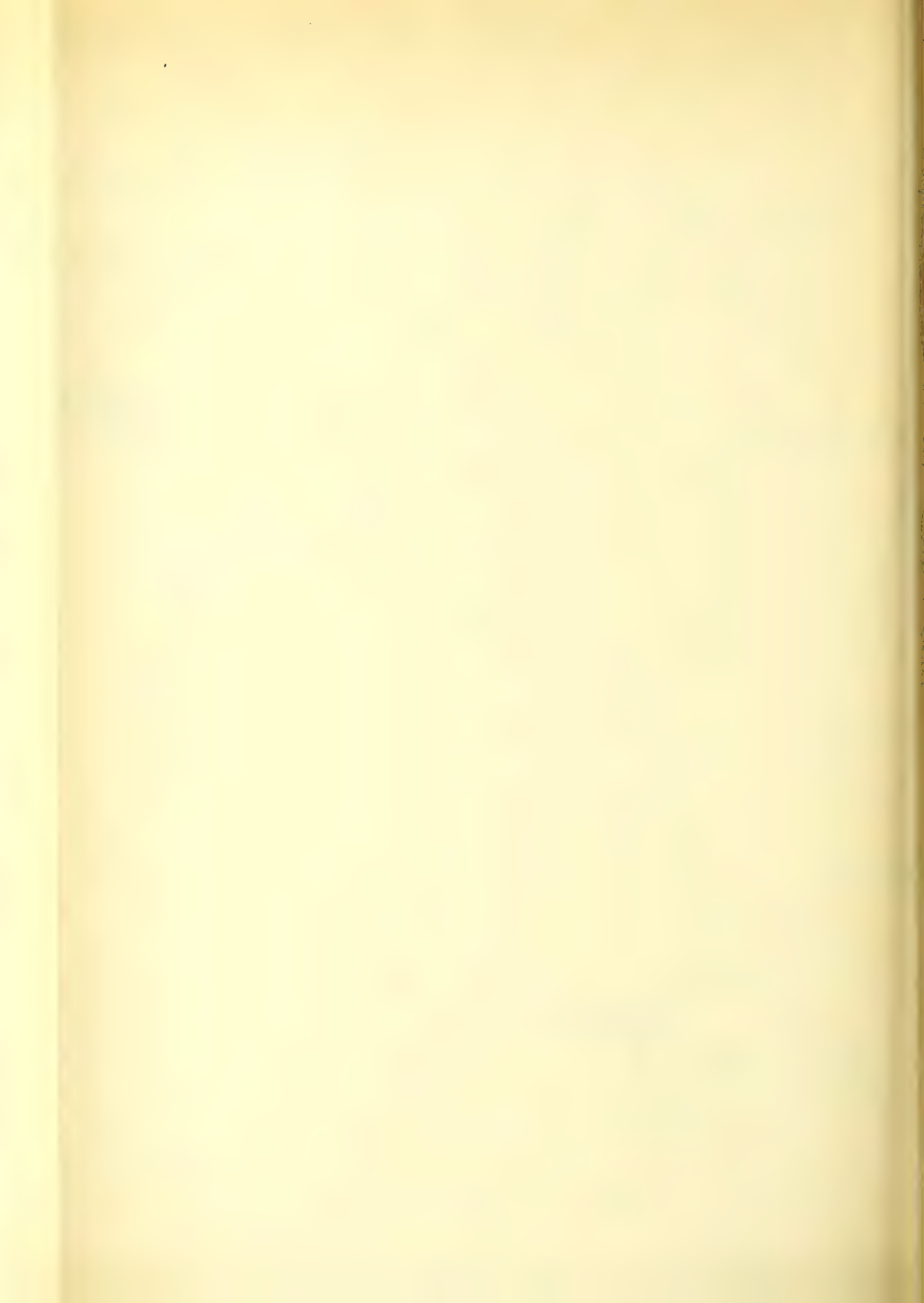
"The Oriental fruit moth (Lasneyresia molesta Busck) was not on the whole so injurious during the season 1930 as during 1929, presumably on account of the unfavorable temperature conditions during the winter. It appears that the commercial peach districts east of the Mississippi River, and some west of the river, are now rather generally infested, though no recent actual survey to determine distribution has been made. At the Moorestown, N. J., laboratory special experiments were carried out with native parasites of this insect; these have resulted in a material increase in our knowledge of these beneficial insects. One species has been propagated in considerable numbers and distributed to various interested States. The entomologist sent to Europe to collect parasites of the

1 George I. Reeves, Bureau of Entomology, U. S. D. A.

ORIENTAL FRUIT MOTH

Known distribution up to December 31, 1930.





belt, while up to the third week of March no adults had been seen in Delaware and Virginia and it was not until the middle of April that the first adults were observed in this region. This is extremely late for the Atlantic Seaboard, as adults emerged from hibernation about March 7 in 1929. The first weevils were observed in the trees in southern Illinois April 14 this year and April 6 in 1929. Egg-laying was well under way during the last week in April in Georgia. The first larva was observed to leave peach drops in the Fort Valley district of Georgia on April 28. This is about two weeks later than usual, and as a result no damage was done except to extremely late varieties of peaches in the Georgia fruit belt. In the East-Central States, particularly in the southern part, this insect seriously damaged apples during May. This is accounted for by the complete failure of the stone-fruit crop due to winter killing in this region. During June this insect appeared to be more prevalent than usual in the New England and Middle Atlantic States. Toward the end of the season a very considerable late injury was reported throughout the New England, Middle Atlantic, and East-Central fruit sections, while in the South this insect was less destructive than in previous years.

JAPANESE BEETLE

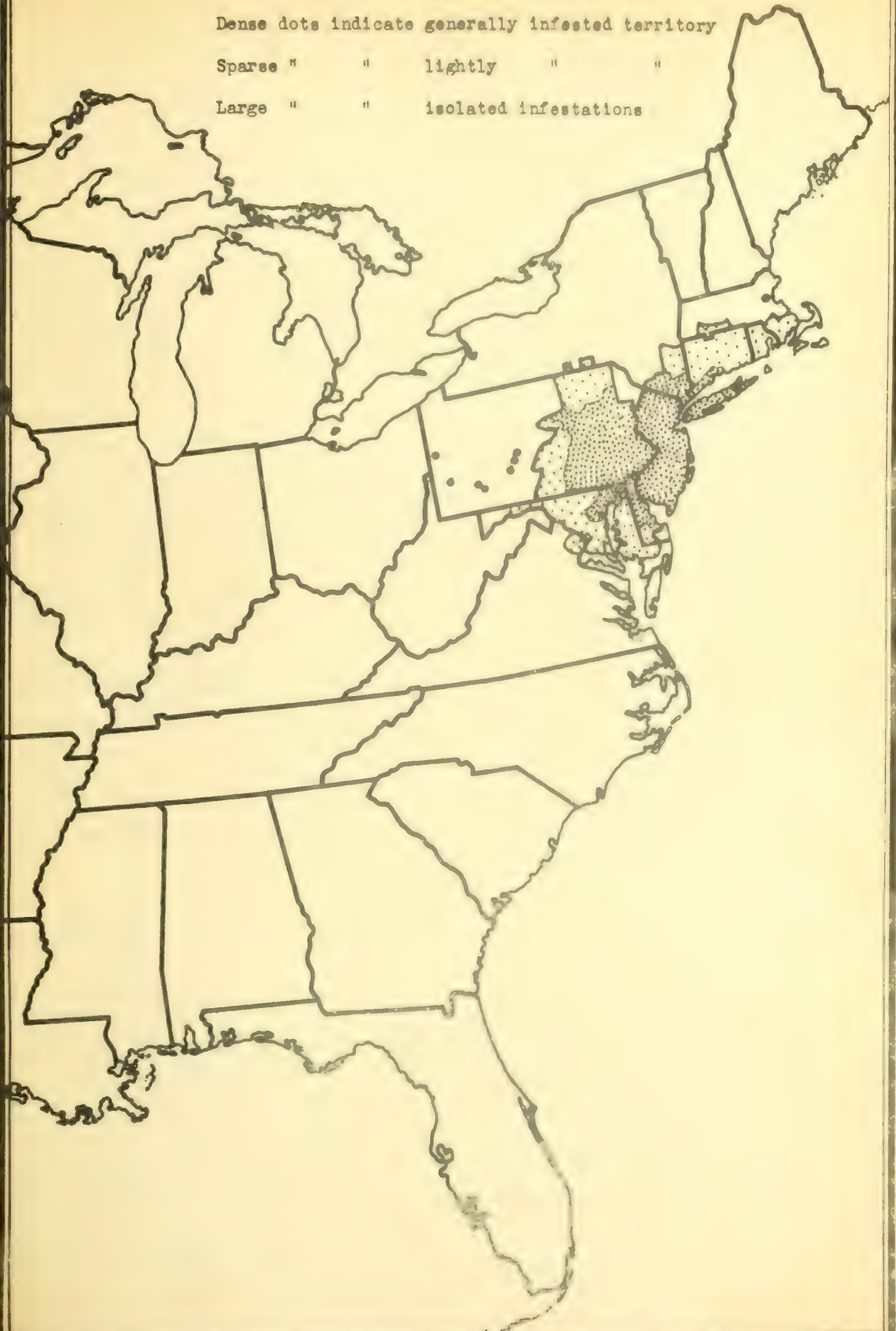
"Under the quarantine regulations for the Japanese beetle (*Popillia japonica* Newm.), in effect throughout the summer of 1930, the area designated as generally infested covered 25,592 square miles, extending from the vicinity of Baltimore, Md., and Harrisburg, Pa., to Newburgh, N. Y., and New Haven, Conn. Outside this area there occur a number of more or less isolated infestations in what is known as the lightly infested area. The latter covers 18,293 square miles, largely in Maryland, central Pennsylvania, and Connecticut. Scouting during the growing season of 1930 showed new infestations outside the regulated areas at Plymouth, New Bedford, and Attleboro, Mass.; Newport and Westerly, R. I.; Waverly and Buffalo, N. Y.; Lock Haven, Pittsburgh, New Castle, and five other points between Harrisburg and Pittsburgh, Pa.; Georgetown and Lewes, Del.; and Newport News, Portsmouth, and five villages in Accomac and Northampton counties, Va. In addition, the presence of infestation was determined at Boston, Mass., Providence, R. I., and Cape Charles and Norfolk, Va., where beetles had previously been discovered although these localities had not been brought under Federal quarantine regulations. Points in the lightly infested areas where Japanese beetles had not previously been discovered included West Springfield, Mass.; Groton, Enfield, Bradford, Danbury, and Terryville, Conn.; South Waverly, Lewisburg, Carlisle, and Boiling Springs, Pa.; and Hyattsville and Weverton, Md. At a number of these points only one Japanese beetle was collected. The most pronounced increases in the number of beetles caught in traps at the outlying points of infestation were at Cape Charles and Alexandria, Va.; Hartford, Conn.; and Cambridge, Md." 1

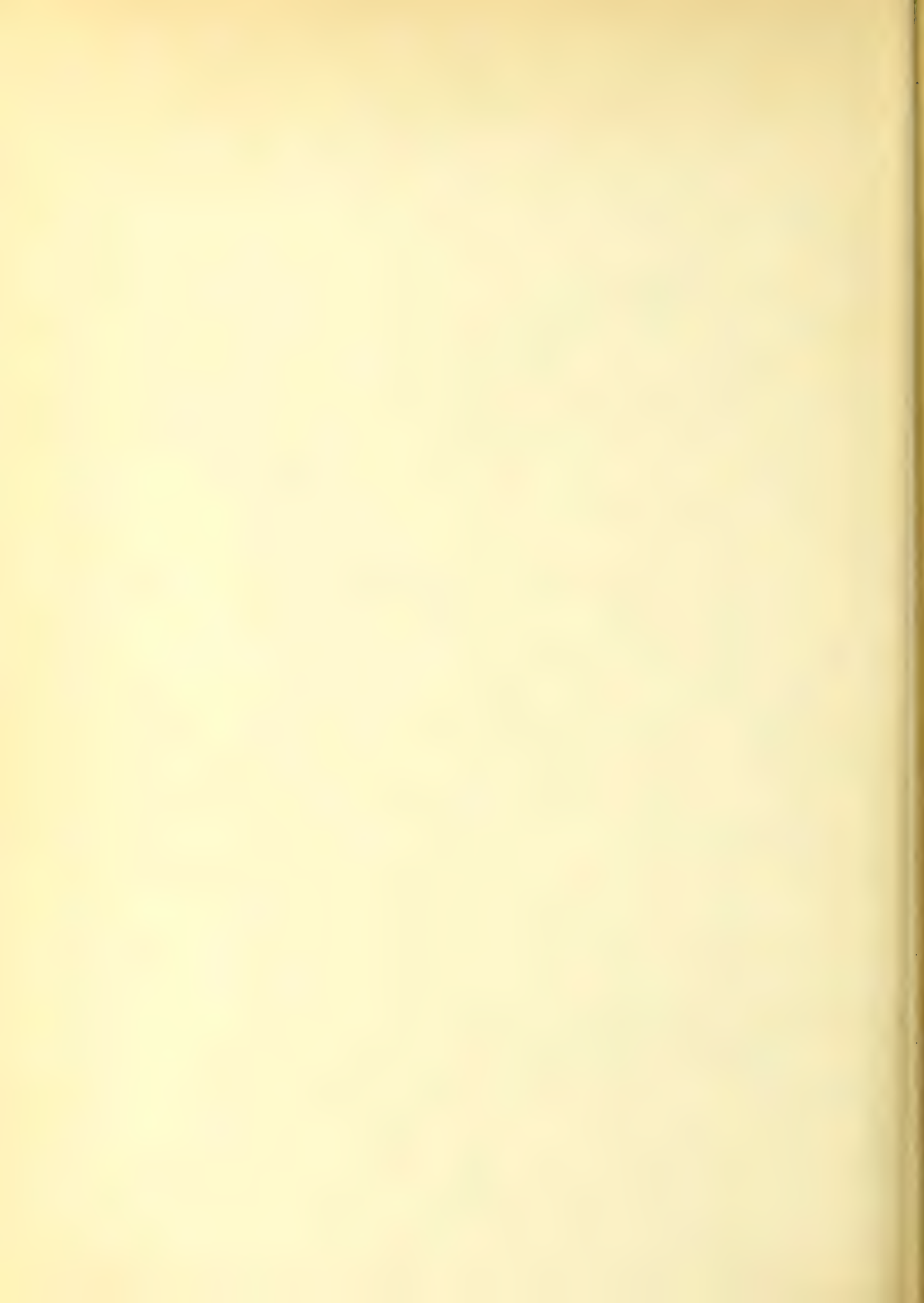
JAPANESE BEETLE - 1930

Dense dots indicate generally infested territory

Sparse " " lightly " "

Large " " isolated infestations





ASIATIC BEETLE AND ASIATIC GARDEN BEETLE

"The abundance of the Asiatic beetle (Anomala orientalis Waterh.) and the Asiatic garden beetle (Aserica castanea Arrow) has been reduced by the drought during the past two summers. The Asiatic beetle has been affected more as it flies very little. In 1930 lawn-turf injury was reported at New Haven, Conn., and in New York at White Plains, New Rochelle, and Roslyn. Examination of conditions throughout the infested area shows that the Asiatic beetle will remain abundant during years when there is a drought summer if the soil is not so porous that all traces of moisture disappear. The extensive application of lead arsenate to lawns during the period from 1926 to 1930 has also helped to check the Asiatic beetle at many localities. The dense infestations of the Asiatic garden beetle have been reduced so that plant injury in 1930 was about one-third as great as in 1928. A large part of this reduction of dense infestations may be credited to the drought, but some is due to a migration. As a result, a much larger area has an abundant infestation than at any earlier period, and more extensive economic injury can be expected unless some checking factor holds down the abundance of the Asiatic garden beetle. In 1930 injury of a new type by grubs of the Asiatic beetle and the Asiatic garden beetle occurred in New York. They were found feeding in gardens upon the roots of bean, beet, corn, onion, rhubarb, and strawberry plants. They were very destructive to strawberry beds and young vegetables." 1

SAN JOSE SCALE

During the winter months of 1929-30 surveys in several States indicated that in the Middle Atlantic region and the southern part of the East-Central States the San Jose Scale (Aspidiotus perniciosus Comst.) seemed to be slightly on the increase while in the northern parts of this region winter mortality was high. North of East St. Louis, Ill., only 2 per cent of the scale survived. The first crawlers were observed in Indiana on June 1 and in Washington State on June 10. This insect very materially increased in central and southern Illinois, which is believed to have been due to the hot summer and mild fall.

EUROPEAN RED MITE

Early observations in 1930 indicated that the European red mite (Paratetranychus pilosus C. & F.) was increasing in abundance in the East Central States, particularly in the northern part, but it was decidedly less abundant than usual in the New England and Middle Atlantic States. This insect was rediscovered in Utah in August, 1929, after a lapse of five years since it was last observed in that State. It has also recently become established in central California. The very dry weather which prevailed over much of the eastern part of the United States during July and August resulted in a decided increase in all red spiders.

1 H. C. Hallock, Bureau of Entomology, U. S. D. A.

A red spider destroyed 50,000 acres of wheat in Cimarron and Texas Counties, Okla., during April and May.

FRUIT APHIDS

During the winter months of 1929-30 fruit aphid eggs seemed to be below normal in abundance in the Eastern States, and these insects were not nearly so abundant in this region as they were last year. Eggs of the apple grain aphid (Rhopalosiphum prunifoliae Fitch) were reported as quite plentiful in parts of Missouri. The weather and enemies apparently checked the outbreak. Eggs started hatching in Delaware, central Illinois, and Ohio the last of March. The rusty plum aphid (Hysteroneura setariae Thos.) appeared in threatening numbers in the Fort Valley District of Georgia and in southern Mississippi during May. This species was also recorded at that time from Nebraska and Utah.

RASPBERRY FRUIT WORM

The raspberry fruit worm (Byturus unicolor Say) was somewhat prevalent in the Hudson River Valley and also in western New York. It was quite injurious in southwestern Michigan and the St. Paul district of Minnesota.

"In Washington State beetles were much more numerous this spring than formerly near Puyallup, but the actual amount of infestation in the raspberries was less than it has been in the past three years. An estimate of approximately 15 per cent loss occurred in the crop this season. The infestation in the raspberries was perhaps more general than before, but owing to the fact that the larvae seldom stick in the berries when picked, little attention was paid to them in this crop!" 1

MEDITERRANEAN FRUIT FLY

"The only findings of the Mediterranean fruit fly (Ceratitis capitata Wied.) in the continental United States during the past fourteen months were as follows: One infested sour orange containing four larvae about 10 miles west of Orlando, Fla., on November 16, 1929; two infested sour oranges containing ten larvae at Orlando on March 4, 1930; and two pupae in the soil under a fallen orange at St. Augustine on July 26, 1930. Meanwhile, from 300 to over 600 inspectors have been searching for infestation and during the past year have turned in for identification over 600,000 specimens, almost all of them Diptera found in ripe or decayed wild and cultivated fruits." 2

1 W. W. Baker, Washington Agricultural Experiment Station.

2 Plant Quarantine and Control Administration, U.S.D.A.

"There has been about the usual prevalence of the Mediterranean fruit fly (Ceratitidis capitata Wied.) in the Hawaiian Islands, as indicated especially by the wormy fruits of mango, guava, and papaya that are allowed to become fully ripened on the tree. The introduced parasites continue about the same extent of control as has been reported for the past several years, i.e., about 55 per cent of the maggots are killed by them." 1

ORANGE MAGGOT

"The only infestations of the orange maggot (Anastrepha ludens Loew) in the United States determined between April, 1929, and the time of the preparation of this report in October, 1930, consisted of larvae found in the fruit of three backyard plantings in the city of Brownsville, Texas, on November 19, 1929. The insect was found to be present, however, on more than one hundred properties across the Rio Grande in Matamoros, Mexico. The infestations on both sides of the river appear at present to have been wiped out by the prompt spraying and clean-up measures which were carried out during the following winter and spring, but infested fruit from the interior of Mexico is still being sold on the markets of Matamoros." 2

CITRUS APHID

The green citrus aphid (Arabis spiraeicola Patch) was more abundant on citrus in parts of Florida than it had been for several years. By the last of March the infestation had practically cleared up, owing apparently to very heavy rains. The infestation started to build up again in central Florida during June. During June outbreaks of rather severe proportions of various other aphids were reported from many parts of the northern United States.

PARLATORIA DATE SCALE

"The date-growing areas in which the Parlatoria date scale (Parlatoria blanchardi Targ.) is or has been present are the Coachella Valley and the Imperial Valley of California, the Salt River Valley and the Yuma District of Arizona, and the vicinity of Laredo, Texas. In the Coachella Valley, during the fiscal year 1929, 430 infested palms were found on 27 properties. In the year ended June 30, 1930, intensive inspection and clean-up work was conducted on these same properties, and 59 infested palms were found on 12 of the 27 properties, the others being apparently free from infestation. No infestations severe enough to be classed as "centers of spread" have been found in this valley since August 19, 1929, when the first intensive inspection was completed. In

1 O. H. Swezey, Hawaiian Sugar Planters' Association.

2 Plant Quarantine and Control Administration, U. S. D. A.

the Imperial Valley, work was confined during the fiscal year 1930 to the southern part of the county, the only area in which infestation had previously been found. Ninety-two infested palms were discovered on 30 properties as contrasted with 1,115 infested palms found on 60 properties during the previous year. In the vicinity of Phoenix in the Salt River Valley of Arizona, 27 infested palms were found during the fiscal year on 5 properties, as contrasted with 43 infested palms found on 12 properties in 1929. In the Yuma District, 8 infested palms, all ornamental, were found on 3 properties during the year. Commercial plantings in this area were kept under observation but no scale was found in them. The *Parlatoria* date scale has not been found in Texas for a number of years"¹

CITROPHILUS MEALYBUG

The situation with regard to the citrophilus mealybug (*Pseudococcus gahani* Green) in southern California was more favorable than it has been any year since the insect became a major pest in that section of the State. Only a very small percentage of the properties were reported as heavily infested.

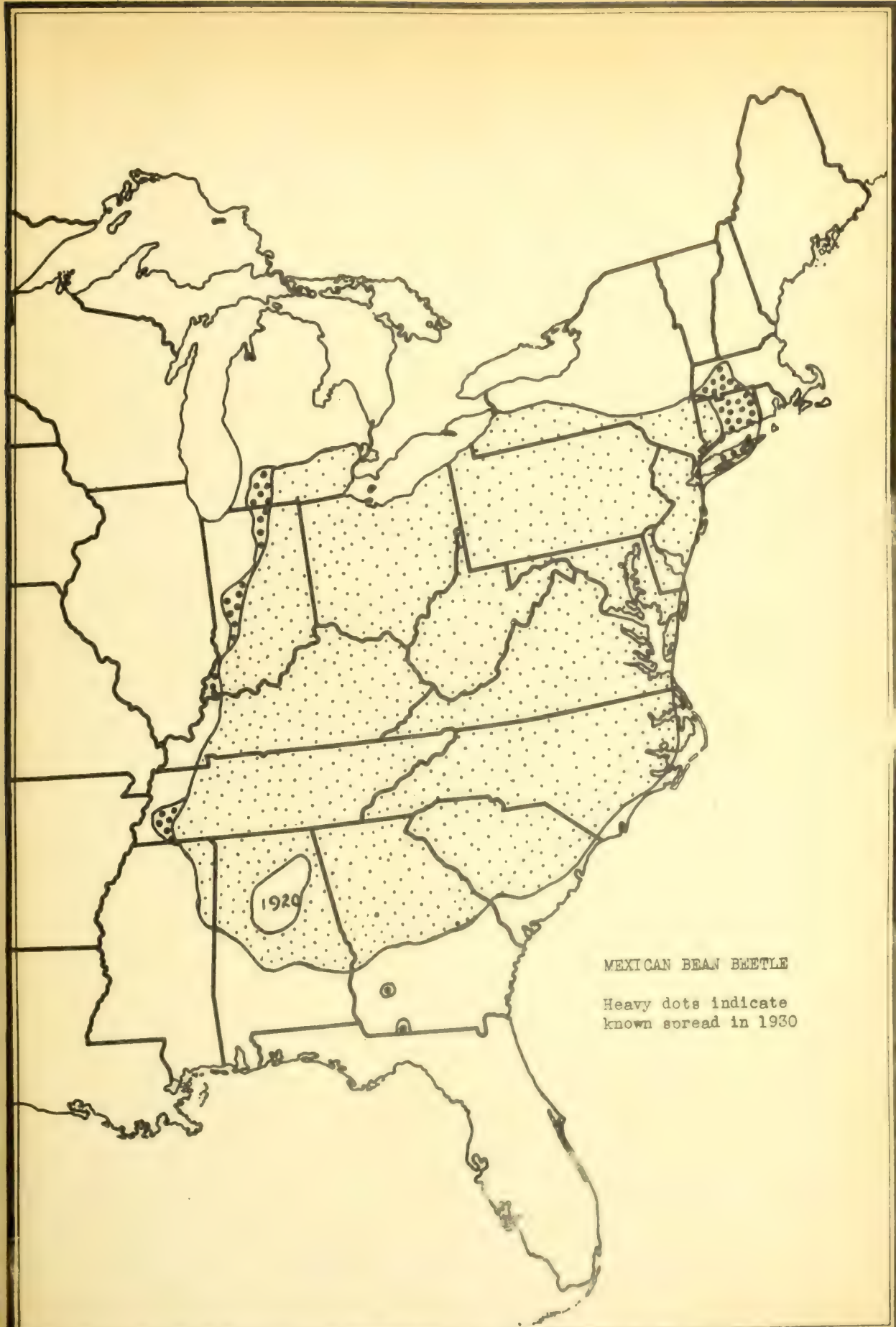
OTHER CITRUS INSECTS

The dry weather that prevailed over parts of Florida was accompanied by decided increases in the populations of the Florida red scale (*Chrysomphalus ficus* Ashm.), the purple scale (*Lepidosarhes beckii* Newm.), and the citrus whitefly (*Dialeurodes citri* Ashm.). The reporter believed that the lack of humidity prevented the development of the entomogenous fungi which normally check these pests.

MEXICAN BEAN BEETLE

The Mexican bean beetle (*Brilachna corrupta* Muls.) was observed emerging from hibernation in the Norfolk district of Virginia and in Delaware during the first week in May. During the last week in May and the first two weeks in June the insect was observed throughout the northern part of the territory known to be infested. Throughout early July, the insect was quite generally reported throughout the infested territory, though infestations in the northern part of its range did not seem to be so serious as they were in 1929. The hot, dry weather that prevailed over a large part of the eastern part of the United States appears to have been very destructive to this insect and over much of the territory it practically disappeared as an economic factor. In Massachusetts the insect was found during the year to be well distributed over the Connecticut River Valley district northward into Hampshire County and has been found in a few instances in Franklin County. Otherwise, there was but little extension of the territory known to be infested.

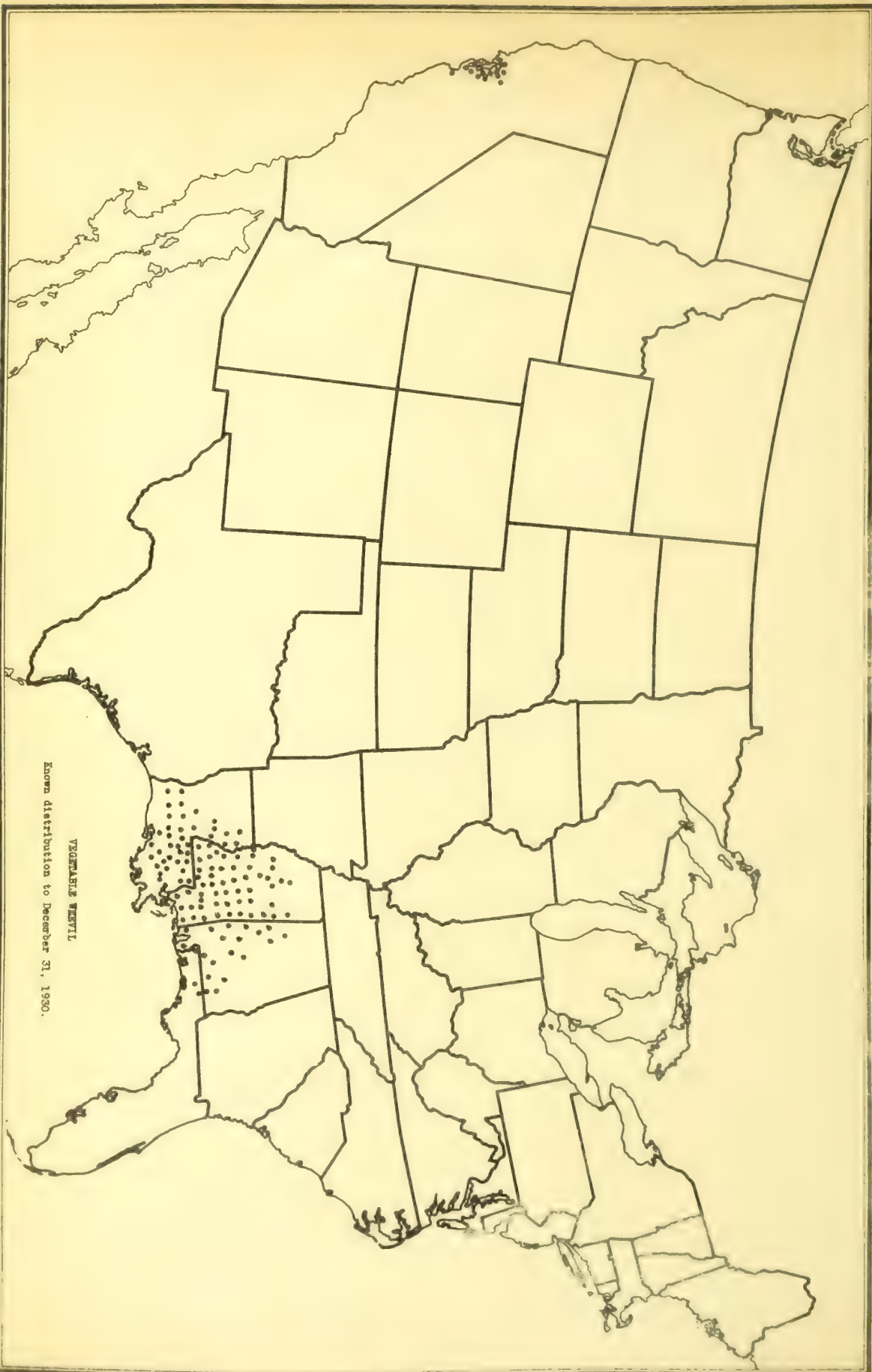
1 Plant Quarantine and Control Administration, U. S. D. A .



MEXICAN BEAN BEETLE

Heavy dots indicate
known spread in 1930





VEGETABLE FERTIL

Known distribution to December 31, 1930.

COLORADO POTATO BEETLE

The first adult of the Colorado potato beetle (Leptinotarsa decemlineata Say) was observed near Yazoo City, Miss., on March 20, and in the Charleston district of South Carolina on April 5, and at Columbus, Mo., on April 21. The prolonged drought was reflected during May along the Atlantic seaboard by a rather unusual abundance of this insect from North Carolina to New York. During the third week in May this insect was found in St. Johns County, Fla., this being the second record that this insect has occurred so far south in that State. During July the insect was found in Canyon County, Idaho, a previously uninfested county. A single specimen was collected in Davis County, Utah, this year. It has not been observed in Utah for several years.

VEGETABLE WEEVIL

The vegetable weevil (Listrolerios obliquus Gyll.) was first recorded this year on January 25 in Lawrence Co., Miss. At that time it was doing serious damage to turnips. During the first half of February considerable damage in hotbeds and coldframes was reported throughout the infested territory in Mississippi and Louisiana. Reports of similar damage continued throughout March, April, and May. As the season advanced, damage in the field became more prevalent, being most serious on tomatoes, turnips, and carrots.

" During the calendar year 1950 the vegetable weevil has been found in 33 new counties and parishes, and is now known to occur in 118 counties in four Gulf States. Mississippi leads with 56 known infested counties; Louisiana comes second with 40 known infested parishes; Alabama third with 19 infested counties, and Florida fourth with 3 counties known to be infested.

" The dispersion of the weevil northward has not been so rapid during the past year as the year before, but its spread eastward and westward has been fully as rapid as before. The weevil is now present in at least 2 parishes bordering on Texas, in Richland parish or just one county south of the Arkansas line, and in Yalobusha county or two counties from the Tennessee line.

" A few new wild host plants were found during the year, but with one exception the infestation was light." 1

This insect is now known to occur in parts of ten counties in the San Francisco Bay district of California.

1 M. M. High, Bureau of Entomology, U. S. D. A.

SWEET-POTATO WEEVIL

"Damage by the sweet-potato weevil (Cylas formicarius Fab.) has been less this season in Mississippi and Alabama than in previous years, and there has not been a single report of a severe or heavy infestation. Most of the farms show only one or two hills infested. During the year only 38 infested farms were found in Mississippi and 2 in Alabama, located as follows: 12 in Pearl River County, 6 in Hancock County, 14 in Harrison County and 6 in Jackson County, Mississippi and 2 in Mobile County, Alabama. This is the lowest total number of infested farms reported for a year's work since this project was undertaken. No weevils have been found in George County, Mississippi, for three years." 1

IMPORTED CABBAGE WORM

The imported cabbage worm (Pieris rapae L.) was much more abundant this year than usual in the East-Central States, and in Wisconsin, Mississippi, and Utah, and the cabbage looper (Autographa brassicae Riley) did very considerable damage in the Southern States from Texas eastward to Illinois, Virginia, and the extreme southern part of the Eastern Shore of Maryland.

The cabbage webworm (Hellula undalis Fab.) became extremely abundant in the Gulf Coast district of Mississippi, completely destroying several hundred acres of turnips.

POTATO TUBER WORM

The potato tuber worm (Phthorimaea operculella Zell.) was unusually prevalent on the Department of Agriculture Farm at Arlington, Va., this year and also on the Eastern Shore of Maryland and Virginia. A report of this insect was received from Frederick County, Md., being the first report from the western part of the State. The Eggplant leaf miner (P. glochinella Zell.) a closely related species caused a 40 per cent loss of the tomato crop in San Diego County, Calif., this year. This insect is present in Los Angeles and Orange Counties but it is not doing so much damage there.

CABBAGE APHID

During the first part of February the cabbage aphid; (Brevicoryne brassicae L.) was observed in unusual numbers in the Salt River Valley of Arizona. During the first week of March it did considerable damage in the Lower Rio Grande Valley of Texas. Early in March it became extremely abundant in southern Alabama and Mississippi necessitating control measures. As the spring advanced it occurred in such numbers in the truck-growing district of Virginia as to cut down the yield of seed kale about 50 per cent. Later in the season it was reported from the entire northern

1 K. L. Cockburn, Bureau of Entomology, U. S. D. A.

part of the eastern United States from Virginia and Maryland westward to the Dakotas and Nebraska. It caused considerable commercial damage in Virginia, Maryland, Illinois, and Wisconsin.

TURNIP APHID

The turnip aphid (Rhopalosiphum pseudobrassicae Davis) was unusually abundant in the trucking district of Virginia and in a small district near Phoenix, Arizona, during late February. This insect seriously injured turnips during March in Louisiana and southern Mississippi. It was also reported, during the latter half of June, from Nebraska. During later June it seriously damaged turnip in parts of Ohio and kohlrabi and radishes during May in the Norfolk district of Virginia.

PEA APHID

The pea aphid (Illinoia pisi Kalt.) appeared the middle of February, which is about two months earlier than usual in the Gainesville district of Florida. It started to infest alfalfa in Arizona in February and peas in a trucking district of Virginia late in March. It seriously damaged red clover and cowpeas in Illinois in June. It appeared in large numbers by the third week in April in Kansas, by the third week in May was seriously injuring alfalfa in Kentucky, and by this time it was worse on the Eastern Shore of Maryland than it has been for many years. It was found in many alfalfa and pea fields during late May and early June in Minnesota and was found heavily infesting alfalfa the last half of June in Nebraska. In late May it was collected on cannerly peas in Ohio. This insect appeared in large numbers in the important pea-canning district of Wisconsin during late June but by a combination of the hot weather of the summer and a very unusual number of parasites and predators it is believed to have been practically eliminated during the latter part of the summer. This species was also reported as seriously damaging alfalfa near Fresno, Calif., and in Utah and Nevada.

SQUASH BUG

The squash bug (Anasa tristis DeG.) did very considerable damage in large cantaloupe and squash plantings in the San Fernando Valley, Calif. It was also reported in unusual abundance in the Chicago trucking district of Illinois, where it had not been a pest for the last four years. Injury was also reported from southern New York; Indiana, northwestern Iowa, central Missouri, and eastern and southern Nebraska. The insect was reported for the first time from the State of Idaho this year, the specimen on which this report was based was collected in 1929.

HARLEQUIN BUG

The harlequin bug (Murgantia histrionica Hahn) began emerging in rather large numbers during the second week in April in Alabama. This insect became unusually prevalent from Mississippi eastward to the Carolinas. This condition prevailed throughout the remainder of the summer and well into fall, when serious damage was done to cabbage and turnip in Missouri. Observations in the Norfolk district of Virginia indicate that even this far north this insect does not truly hibernate but comes out whenever the temperature rises during the winter months.

BEET LEAFHOPPER

"The beet leafhopper (Eutettix tenellus Baker) did serious damage to beets in southern Idaho, the damage decreasing in severity toward the eastern part of the State, where little injury was experienced. White beans in the western part of the Idaho bean territory and in western Washington also suffered. Some severe injury to beets occurred throughout central Utah and western Colorado, where tomato yields were also seriously affected. A variety of truck crops in western Oregon were injured in varying degrees. Injury in California was relatively slight, although some commercial losses were apparent. Populations of the beet leafhopper in New Mexico and southern Colorado were higher than in either of the past two years. Late reports indicate large populations in the desert breeding grounds in Utah and Idaho." 1

SEED CORN MAGGOT

The seedcorn maggot (Hyalemyia cilicrura Rond.) again became destructive to potato seed pieces of the early planted crop and to beans in the coastal district of the Carolinas and southern Virginia. This accompanied delayed germination owing to cold weather. Reports of similar trouble were received from many points in the East-Central, West-Central, and North-Central States during May and early June. This insect also did considerable damage by eating out melon seeds in Utah during a period of cool, cloudy weather.

ONION THRIPS

During winter considerable damage by the onion thrips (Thrips tabaci L.) was reported from New York, Virginia, North Carolina, Indiana, Illinois, Iowa, Mississippi, and Utah.

1 P. N. Annand, Bureau of Entomology, U.S.D.A.



PINK BOLL WORM

Area under regulation
(Not actual distribution)

BOLL WEEVIL

"Owing to hot and dry weather extending throughout practically the entire growing season in all States west of Georgia, the population of the boll weevil (Anthonomus grandis Boh.) was held below the point of serious damage to the 1930 cotton crop except in some small local areas and in about twelve counties in extreme southern Texas, including the Rio Grande Valley, where injury was more than usual. In Georgia the infestation was general and caused more or less damage except in the northwest district. In North Carolina weevils were fairly abundant, necessitating the use of control measures in most districts but were not so numerous as in 1929 owing to the dry, hot weather. In South Carolina infestation in the northern district was checked by hot, dry weather, but was sufficiently serious to warrant the use of control measures to a greater extent than in the season of 1929, while in the Coastal Plain district a high degree of infestation developed early and continued to increase as the season progressed, requiring the use of control measures in most counties in that area." 1

PINK BOLL WORM

"In the summary for 1929 as published in Volume 9, Number 10, of the Insect Pest Survey Bulletin, the discovery of larvae of the pink boll worm (Pectinophora gossypiella Saund.) in the Salt River Valley near Mesa, Ariz., was reported. The intensive inspection which followed this discovery disclosed infestation in a considerable number of fields in this general vicinity. Following the delimitation of the infested area, two non-cotton zones were established. These zones included some 40,000 acres of cotton. One of these zones at its greatest length and greatest width is 16 miles and includes the towns of Mesa, Chandler, and Gilbert. The other zone is 5 miles square and is located northwest of the village of Sacaton. No cotton was produced in these areas during the summer of 1930. Beginning with the crop of this year a new method has been employed in the scouting and inspection work done on account of the pink boll worm. A machine has been devised which serves to very greatly reduce the volume of gin trash from the first cleaner and has made it possible to examine a considerable portion of the first cleaner trash from gins throughout the area regulated on account of this insect. Gin trash machines have also been operated in a few localities outside of the regulated area. The inspections have failed to disclose the presence of the pink boll worm at any point outside of the regulated area. Likewise, the intensive inspections have failed to reveal the presence of the pink boll worm in certain counties of the Western Extension, (western end of cotton belt), where worms were found during 1927. Failure to find infestation in those parts of the regulated area included in Martin, Glasscock, Dawson, Howard, and Borden Counties, and in a small part of the northeastern portion of Midland County, has led to the amendment of the quarantine which removed these areas from the restrictions. The

inspections have shown the continued presence of the pink boll worm in all other cotton growing areas to be confined to the regulated area. The infestation in many of these areas is very light, and it is probable that infestation would not have been discovered in all areas by the old methods of inspection. Light infestations have likewise been found in a number of points in Arizona outside of the non-cotton zone. These points are, with two exceptions, all within the restricted zone which surrounds the non-cotton zone. The infestations within the restricted zone are located within the vicinity of Lehi and Goodyear. A light infestation was also discovered about 3 miles southwest of Tempe and one specimen was found northwest of Phoenix, in the vicinity of the town of Glendale. A very light infestation has likewise been disclosed in the new cotton development in the vicinity of Coolidge. The infestations in this area have so far been traced to five fields included within a crescent-shaped area approximately 5 miles long. Although the new finding in Arizona involved considerable additional area, a comparatively few specimens have been found even by the intensive inspections employed. A rather heavy infestation was found on a desert ranch about 5 miles east of the easternmost limit of the cultivated area in the Salt River Valley. The production of cotton on this isolated ranch, which contains approximately 27 acres of cotton, was unknown until this autumn." 1

PERIODICAL CICADA

Brood IV of the periodical cicada (Tibicen septendecim L.) appeared during 1930 in the following counties:

IONA

Adair, Adams, Appanoose, Cass, Clarke, Davis, Decatur, Fremont, Guthrie, Lucas, Mills, Monroe, Montgomery, Page, Ringgold, Shelby, Taylor, Union, Van Buren, Wayne.

KANSAS

Allen, Anderson, Atchison, Bourbon, Brown, Butler, Chase, Chautauqua, Cherokee, Clay, Coffey, Cowley, Dickinson, Doniphan, Douglas, Elk, Franklin, Geary, Greenwood, Jackson, Jefferson, Johnson, Labette, Leavenworth, Linn, Lyon, Marion, Marshall, Miami, Montgomery, Nemaha, Neosho, Osage, Pottawatomie, Riley, Saline, Sedwick, Shawnee, Sumner, Waubesaunsee, Wilson, Woodson, Wyandotte.

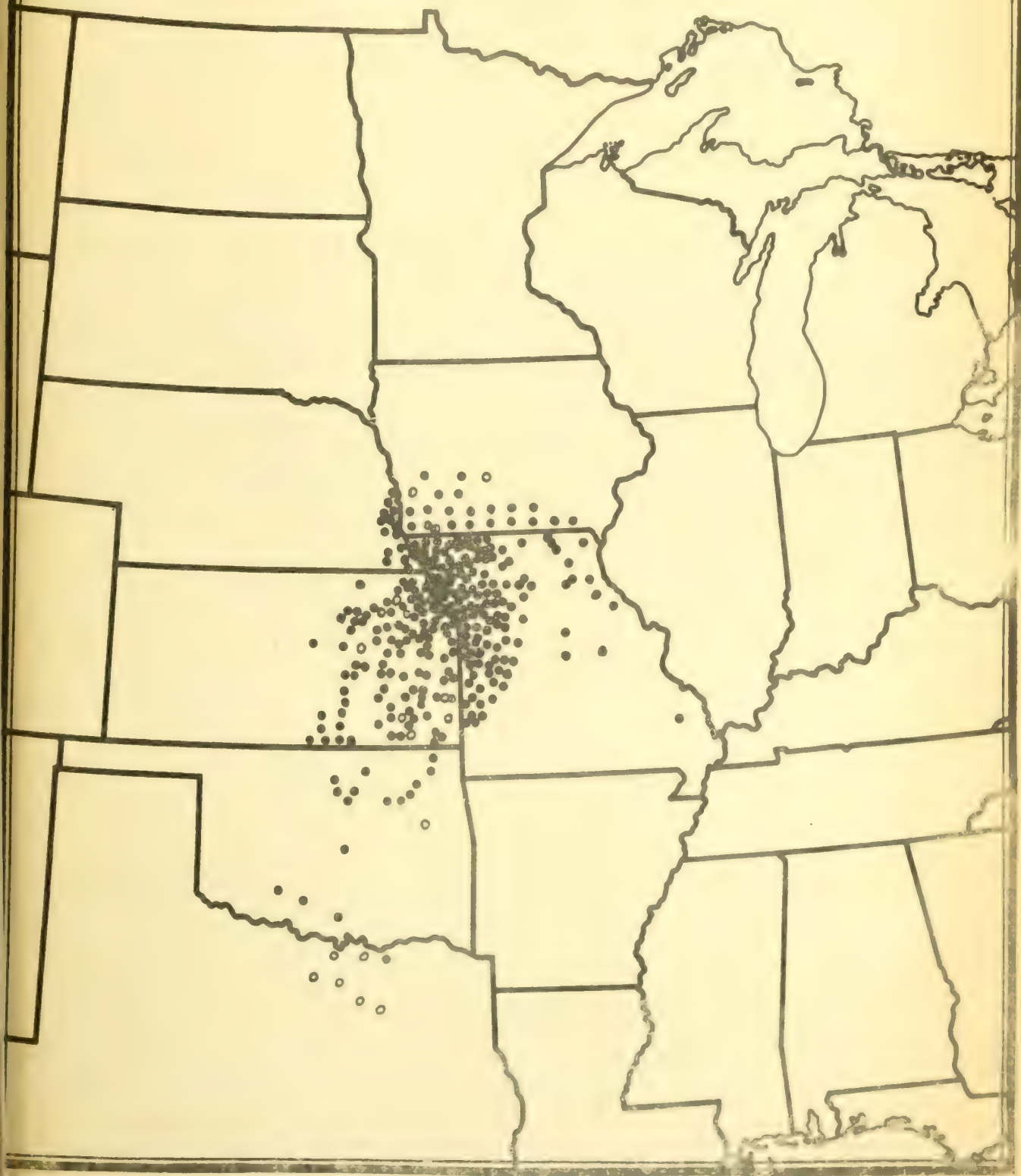
MISSOURI

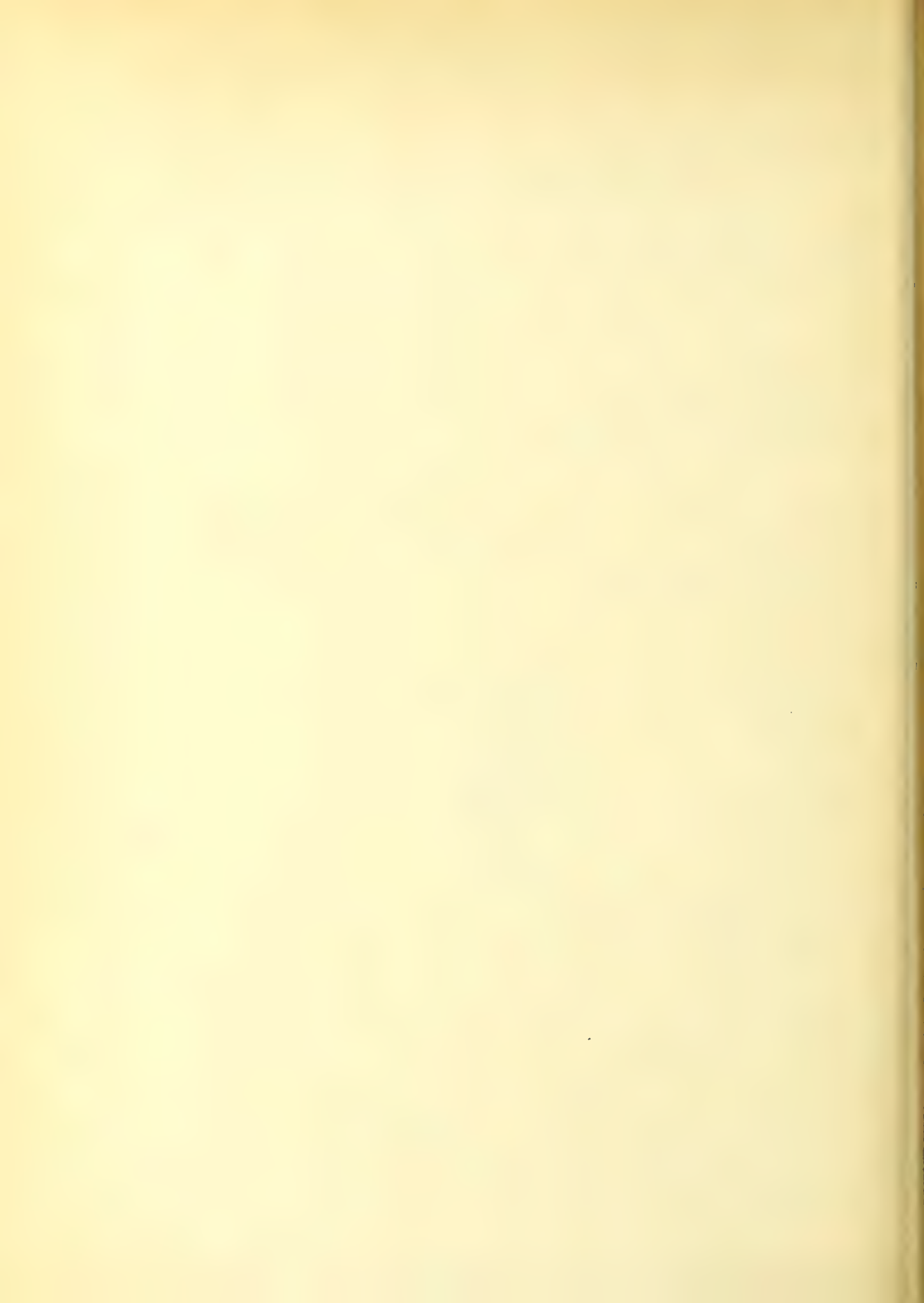
Andrew, Atchison, Barton, Bates, Benton, Bollinger, (perhaps a 13-year colony), Boone, Buchanan, Caldwell, Carroll, Cass, Cedar, Chariton, Clark, Clay, Clinton, Cole, Daviess, DeKalb, Grundy, Gasconade, Gentry, Harrison, Henry, Holt, Jackson, Johnson, Knox, Lafayette, Linn, Livingston, Marion,

PERIODICAL CICADA

Known distribution of Brood IV up to and including its appearance in 1930.

Black dots indicate 1930 records.





Mercer, Nodaway, Pettis, Pike, Platte, Putnam, Ralls, Ray, St. Clair, Saline, Schuyler, Shelby, Vernon, Worth.

NEBRASKA

Cass, Douglas, Johnson, Nemaha, Otoe, Pawnee, Richardson, Sarpy.

OKLAHOMA

Carter, Comanche, Craig, Noble, Osage, Pawnee, Payne, Pottawatomie, Roger, Stephens, Tulsa.

TEXAS

Fannin.

GYPSY MOTH

"The continued intensive inspection of the area in New Jersey where cooperative eradication work has been carried on by the State and the Federal Government against the gypsy moth (Forthetria dispar L.) since 1920 failed to reveal the presence of this insect during 1930. The close examination which is being given to areas formerly known to be infested is progressing satisfactorily although considerable work remains to be done to insure complete eradication of the insect in that State. A single live eggcluster was found on a tree at Interlaken, N. J., in March, which was shipped to that point from Roslyn, Long Island, N. Y. Interlaken is not located in the area where intensive work is being done. The eggcluster was treated and careful scouting for a considerable distance around the locality where the tree was planted failed to disclose any additional infestation. As a precaution, the area and surroundings were thoroughly sprayed in June and no trace of the insect has been found. The number of infested locations in the barrier zone, an area approximately 30 miles wide, extending from the Canadian border to Long Island Sound along the New England States and New York boundaries, was greater than last year. Most of the infestations were located in the section of the zone in south-western Massachusetts, northwestern Connecticut, and the territory adjoining it in New York State. A large proportion were found in woodland areas. Clean-up and exterminative treatment was applied to all the infestations in order to destroy the insect in these localities. Since the barrier zone was established in 1923 in cooperation with the States concerned, no serious spread to points beyond this protective area has been reported. At the beginning of the year an infestation of considerable extent was found on Long Island, N. Y., centering at one of the nurseries at Roslyn. Vigorous measures were taken at once by the authorities of the State of New York and the Federal Government to exterminate this infestation. It was necessary to trace a large number of shipments of nursery stock which had been sent from the infested area on Long Island to various points to be sure that the insect had not become established in this way. As a result of this tracing, a very small number of live eggclusters were found at three points on Long Island and at one point in New Jersey. By

reason of the intensive exterminative measures applied by State and Federal agencies, it is believed that all of these minor incipient infestations have been eradicated. Conditions in the generally infested central and eastern parts of the area in New England were improved over the previous year. Defoliation, as compared with the previous year, was considerably reduced although large areas were defoliated in many sections of the territory." 1

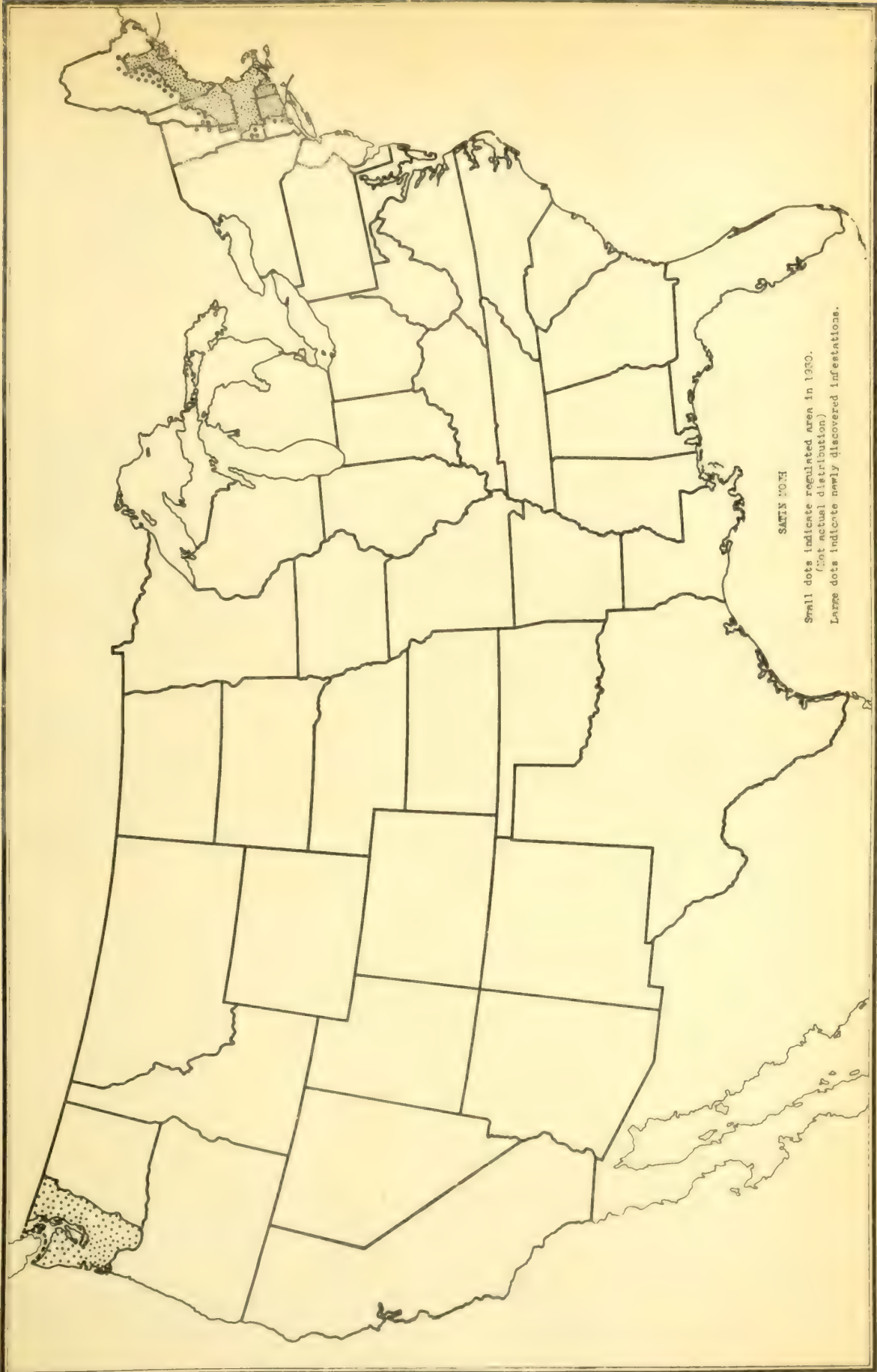
SATIN MOTH

"There was appreciable spread by the satin moth (Stilpnotia salicis L.) in the New England area during 1930, beyond the previously known limits of infestation. This enlargement of the area occurred principally in parts of the following counties: New Haven, Middlesex, and Hartford Counties, Conn.; Hampshire and Berkshire Counties, Mass.; Windsor and Orange Counties, Vt.; Sullivan and Grafton Counties, N. H.; and Oxford, Franklin, Somerset, Piscataquis, Penobscot, and Washington Counties, Me. This new area, together with unsurveyed territory would embrace approximately 9,000 square miles in addition to area previously quarantined. This insect was reported for the first time last year as defoliating poplar trees in woodland in New England. During 1930 several defoliated areas were reported in woodlands located between Manchester and Concord, N. H., and also in the vicinity of Exeter, N. H. In general the infestation by this insect in New England appears to be increasing in density in certain districts and is steadily expanding the area which it occupies. This insect was reported for the first time in New Brunswick and Nova Scotia by assistants of the Dominion Entomologist. A number of locations extending roughly from Yarmouth to Annapolis Royal, Nova Scotia, were found, together with a somewhat larger number in New Brunswick, including one at St. Andrew which is located on the international line south of Calais, Me., at Fredericton and Moncton, together with a number of towns surrounding the latter city." 1

BROWN-TAIL MOTH

"The brown-tail moth (Nyctia phaeorrhoea Don.) has not been seriously abundant except in southern New Hampshire and in some isolated areas in Maine and eastern Massachusetts. Severe defoliation occurred in many districts of southern New Hampshire, particularly from Concord southward, including territory east of the Merrimac River and extending nearly to the seacoast. Small defoliated areas were also recorded in towns immediately west of the river, but in other parts of the infested territory the infestation was no more abundant than usual. In most of the residential sections, particularly in Massachusetts, the wintering webs are removed annually and burned by the local authorities." 1

1 Plant Quarantine and Control Administration, U. S. D. A.





SPRUCE BUDWORM

The severe infestation by the spruce budworm (Harmoloba fumiferana Clem.) in the Shoshone National Forest in Wyoming has continued this year. This infestation has been under way since 1922. The large centers of infestation of the spruce budworm in central Idaho that have been so destructive during the past few years are reported as being materially reduced and no longer in an epidemic status. The outbreak which developed on the Coeur d'Alene Forest in 1928 continues its destructiveness. By midsummer it developed that this insect was very prevalent over Michigan and Wisconsin. In several parts of the latter State the outbreaks were serious.

SPRUCE NEEDLE MINER

"Early this spring the work of the spruce needle miner (Erinotia nanana Treit.) was again very noticeable on spruce (red and white) along the seacoast from Orr's Island to Penaquid, Maine, approximately 25 miles. The heaviest infestations seemed to cover small areas, sometimes less than an acre in extent. Where it was plentiful the dried mined needles clinging to the twigs made the trees very unsightly. Defoliation in the heaviest infestation ranged from 35 to 75 per cent. In all the infestations visited the conditions seemed to indicate that the infestation had not been of long standing. This insect was also reported as unusually abundant and destructive in northern Illinois and southern Wisconsin." 1

SADDLED PROMINENT

The saddled prominent (Heterocampa guttivitta Walk.) appeared in outbreak numbers in the New England States where it defoliated large areas of beech and maple. This insect was accompanied by the green-striped maple worm (Aristota rubicunda Fab.) in Massachusetts and southern Vermont.

ELM LEAF BEETLE

The elm leaf beetle (Galerucella xanthomelana Schrank) again appeared in outbreak numbers throughout New England and southeastern New York State; rather severe outbreaks were reported from points in North Carolina, Ohio, and Kentucky. It was also observed to be numerous at Corvallis, Oregon, and is being a pest of major importance in the great interior valleys of California.

BARK BEETLES

What is believed to be one of the largest outbreaks of the southern pine beetle (Dendroctonus frontalis Zimm.) was reported from the Smoky Mountain National Park in North Carolina and Tennessee.

"There was a notable decrease in the activity of the western pine beetle (Dendroctonus brevicornis Lec.) in the western yellow pine stands of Oregon and Washington due to more favorable growth conditions during the past season. The epidemic in the Modoc National Forest, California, subsided to a point lower than any reached during the last six years. During the period while this decline was in progress in northern California an epidemic developed in the Southern Sierras in certain watersheds of the Sequoia National Park and in the northern part of the Sequoia National Forest and in Coulter pine near Julian, on the Cleveland National Forest. This occurred in a very limited belt of timber and the infestation was estimated to run as high as 35 per cent of the total number of trees."

"The mountain pine beetle (Dendroctonus monticolae Hopk.) continues to sweep through the lodgepole and white pine stands of the Pacific Northwest, central Idaho, and Western Montana, and practically all of the susceptible trees are doomed. The epidemic has waned in many places, having already killed over 90 per cent of the mature stands. The most active epidemics reported are now located on the Fremont, Deschutes, and Wallowa National Forests in Washington, and near the Coeur d'Alene, Kaniksu, Pend Oreille, and Kootenai National Forests and the Glacier National Park. The epidemic which has been active in Crater Lake National Park during the past 15 years is now nearly over."

"The cypress bark beetle (Thloeosinus cristatus Lec.) has caused more than the usual amount of damage to planted Monterey, Arizona, and Lawson cypresses in central and southern California, and in Arizona. Numerous hedge and windbreak trees have been killed by the attack, and ornamental trees have been injured by the twig-pruning habit. In many infestations in the San Francisco Bay District P. dupressi Hopk. is associated with P. cristatus." 1

SCOTCH PINE LECANIUM

The Scotch pine lecanium (Toumeyella numismaticum P. & McD.), a pest which has never been previously recorded as doing any extensive injury in the forests of Wisconsin, appeared in very destructive numbers on Jack pine in many sections of the State.

CYCLAMEN MITE

The cyclamen mite (Tarsonemus pallidus Banks) attracted considerable attention in the coastal area of the San Francisco Bay district in California late in the summer by seriously infesting strawberries.

A CICADA

One of the most striking developments of the year was the discovery

1 Forest Insect Investigations, Bureau of Entomology, U. S. D. A.

of a cicada (Tibicen davisi S. & G.) seriously damaging large commercial plantings of the fern asparagus (Asparagus plumosus) in Palm Beach, Fla. The damage was occasioned by the feeding of the cicada nymphs on the roots of these plants. Adults began emerging in large numbers during early September and they oviposited very freely in the lath shade which is used in these ferneries and also in any other available objects.

A NEGRO BUG

A very unusual type of injury was observed in September in the Norfolk district of Virginia. A small black burrower bug (Panagaeus uhleri Sign.) was attacking newly sprouted spinach, killing the young plants before they pushed through the soil. They were so numerous in one field that 43 acres had to be resown.

WHITE-LINED SPHINX

One of the periodical outbreaks of the white-lined sphinx (Celerio lineata Fab.) occurred this year in parts of Wyoming, Nevada, and the Lake Tahoe district of California. Enormous numbers of the caterpillars crawling over the ground attracted considerable attention. It was also reported in unusual numbers from North Dakota. Very little damage, however, was done by these insects.

ARGENTINE ANT

The Argentine ant (Iridomyrmex humilis Mayr) continued to be one of the most annoying and injurious insect pests occurring in Mississippi. Early in the season we received records of the finding of this insect at Spartansburg, S. C., and in three of the municipal greenhouses in Baltimore, Md.

A SCARABAEID BEETLE

A scarabaeid beetle (Dolbocerosoma bruneri D. McC.) seriously damaged golf greens near Lincoln, Nebr., early in September. The damage was very similar to that occasioned by white grubs.

A CURCULIONID

The finding of Cleonus piper Scop. in Yates County, N. Y., again this year seems to indicate that this European pest is established in that State. In Europe this insect is known as a sugar-beet pest.

WALKINGSTICK

"One of our inspectors J. F. Keough, who is located at Willimantic, Conn., reports that in September, 1930, he observed a very heavy outbreak of the walkingstick, (Diantheromera femorata Say.) in woodland in Voluntown, Conn., over a hundred acres being infested. The growth consisted of 70 per cent red oak, 15 per cent white oak and the balance was a mixture of white pine, pitch pine and gray birch. The heaviest feeding was on the red oak with a smaller amount on the white oak and some on the pitch pine. No feeding was observed on white pine. Defoliation could be observed over the entire area and over about 26 acres there was from 15 to 80 per cent defoliation." 1

Corrections.

Line 1, paragraph 2, page 257, "pale western cutworm" should read "variegated cutworm."

Chalcophora liberta Germ. as given on page 429 was later determined by W. S. Fisher as C. georgiana Lec.

The species of Chrysobothris referred to on pages 27 and 112-113 was subsequently described by W. S. Fisher as C. fragariae.

The cicada, Diceroprocta viridifascia Wlk. reported on pages 259 and 309-310 was later determined as Tibicen davisi S. & G.

Insect conditions in Hawaii during 1930, reported by O. H. Swezey, Hawaiian Sugar Planters Association:

MELON FLY

Apparently the melon fly (Dactrocera cucurbitae Coq.) has been pretty well controlled by the introduced parasite Opius fletcheri Silv., for the crop of watermelons raised was the largest for a long time, and the melons were on the market for the longest season -- five or six months. Some cantaloupes were also raised this year.

ASIATIC BEETLE

There has been slight spread of the cane root grub beyond the limited district previously infested. In most of the district the grubs (Anomala

1 Forest Insect Investigations, Bureau of Entomology, U. S. D. A.

orientalis Waterh.) have been scarce this year and of no injury to the cane. However, in one plantation the grubs were found to have increased sufficiently to cause a significant reduction in cane at harvest time. Scolia manilae Ashm., which controls this beetle in most of the infested area, had failed to do so here, but after the cane was harvested Scolia gained access to the field and in due time had Anomala under control again.

ROSE BEETLE

The rose beetle (Adoretus sinicus Burn.) continues to be a general garden pest, on account of the extensive feeding of the beetles on the leaves of many kinds of ornamentals and garden plants. Scolia manilae Ashm. parasitizes the grubs to some extent but not sufficiently. Attempts in the past several years to introduce additional parasites from the Orient for Adoretus have failed.

SUGARCANE WEEVIL BORER

The status of the sugarcane weevil borer (Rhabdocnemis obscura Boisd.) has remained about the same as for the past several years, it being satisfactorily controlled by the New Guinea tachinid Ceromasia sphenophori Vill. in the majority of the plantations. However, the borer still does considerable damage in some plantations, especially where mature cane stands for several months before being harvested, and the borer is working in the cones that are covered by the accumulation of trash so the parasites do not have access to them. This damage is to be obviated by earlier harvesting of such fields. A recently introduced variety has been observed in several instances to be less attacked by borers than some other varieties growing with it.

MANGO WEEVIL

Examination of 50 mango seeds showed 80 per cent containing the mango weevil (Cryptorhynchus mangiferae Fab.). Their presence in the seeds had not impaired the mangoes for eating, but the seeds were spoiled for propagation purposes.

SUGARCANE LEAFHOPPER

The sugarcane leafhopper (Perkinsiella saccharicida Kirk.) has been satisfactorily controlled by its natural enemies almost entirely throughout the Islands. There was an outbreak on one plantation in which, in a field of about 100 acres, the leafhoppers increased to injurious numbers before being checked by their enemies. The most important enemy, Cyrtorhinus mundulus Breddin, soon increased sufficiently to check the outbreak, and in three months the leafhoppers had entirely disappeared without serious damage to the cane.

HIBISCUS INSECTS

There have been heavy infestations of some hibiscus hedges by the hibiscus whitefly (Aleyrodes hibisci Kot.), causing considerable smutty appearance. The whiteflies were considerably parasitized by Encarsia sp. Hibiscus hedges are more and more becoming infested with Hemichionaspis minor Mask., which results in the death of the infested plants unless given prompt attention.

GREEN SCALE

The green scale (Coccus viridis Green) often badly infests Ixora and some other ornamentals. Several parasites work on it but without any beneficial control. Two ladybbetles, Azya lutes Muls., and Cryptolaemus montrouzieri Muls., often feed on the green scale quite abundantly.

GARDEN LOOPER

The garden looper (Plusia chalcites Esp.) is now well controlled in Honolulu by the parasite Litomastix floridana Ashm., first known to have become established here in February, 1929.

RICE BORER

Rice has yielded much better than any time since the rice borer (Chilo simplex Butl.) was first known here and caused such heavy losses in the spring crop of 1928. This has apparently been the result of the establishment of three parasites on the rice borer from the Orient; an egg parasite, Trichogramma japonicum Ashm., and two larval parasites, Amyosoma chilonis Vier. and Diocetes chilonis Cush.

COCONUT LEAF ROLLER

Coconut leaves have been remarkably free from the coconut leaf roller (Omiodes blackburni Butl.) this year, so they are mostly in perfect condition as compared with the usual ragged appearance. This is undoubtedly due to several parasites, chiefly Ctenastus hymeniae Vier.

SUGARCANE LEAF ROLLER

There were only two or three slight outbreaks of the sugarcane leaf roller (Omiodes accenta Butl.) observed. Apparently the several introduced parasites have kept it well controlled.

CHINESE GRASSHOPPER

The Chinese grasshopper (Oxya chinensis Thunb.) has been spreading rapidly on the Island of Hawaii of recent years. It has been known for a long time on Oahu and Kauai, where there have been occasional fields considerably attacked, though not causing any extensive damage. The feeding on cane (causing very ragged leaves) has been chiefly along grassy roadsides and borders of fields.



THE INSECT PEST SURVEY BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to November, inclusive.

Volume 10

1930

Index

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INDEX TO INSECT PEST SURVEY BULLETIN

VOLUME 10, 1930

(Common names listed separately; see page 507)

	<u>No.</u>	<u>Page</u>
Acarina - - - - -	4	134-135
	5	228
Achorutes armatum Nic. - - - - -	8	356
Acrididae - - - - -	2	45
	3	81, 84
	4	136
	5	197, 199, 201- 202
	6	257, 259, 261-262
	7	317, 319-320
	8	351, 352, 355-356
	9	399, 402
	10	438
Acrobasis caryae Grote - - - - -	3	106
	4	132, 166
	5	226
	6	284
Acrobasis cumulae Dyar & Heinrich - - - - -	4	166
Acrobasis juglandis LeB. - - - - -	1	20
	2	56- 57
	3	106
	4	166
	8	377
	9	417
Acrobasis nebulosella Riley. See		
Acrobasis juglandis LeB.		
Adirus trimaculatus Say - - - - -	7	346
Adoretus sinicus Burm. - - - - -	1	36
Aedes aldrici Dyar & Knab - - - - -	6	312
Aedes vexans Meig. - - - - -	6	312
Aegeria bibionipennis Boisd. - - - - -	4	176
Aegeria exitiosa Say - - - - -	1	18
	2	54
	3	100
	5	220
	6	279
	7	329
	8	372
	9	413
Aegeria pyri Harr. See Synanthedon		
pyri Harr.		
Aegeria rutilans Hy. Edw. - - - - -	6	291
Aegerita sp. - - - - -	4	169
Agallia sp. - - - - -	2	64

	No.	Page
<i>Aglais antiopa</i> L. - - - - -	6	309
<i>Agonoderus pallipes</i> Fab. - - - - -	4	146
	5	213
<i>Agrilus anxius</i> Gory- - - - -	6	301
	7	341
<i>Agrilus bilineatus</i> Weber - - - - -	5	242
	6	300
<i>Agrilus viridis</i> L.- - - - -	8	392
<i>Agriolimax agrestis</i> L.- - - - -	3	117
	4	172
	5	230
<i>Agrotis c-nigrum</i> L. - - - - -	3	85
	5	204
<i>Agrotis unicolor</i> Walk.- - - - -	5	202
<i>Agrotis ypsilon</i> Rott. - - - - -	1	10
	2	46, 47
	3	85
	4	137, 138
	5	204
	6	257, 262
	10	440
<i>Alabama argillacea</i> Hbn. - - - - -	5	204
	6	276
	7	326
	8	351, 368-369
	9	409-410
	10	443
<i>Aletia unipuncta</i> Haw. See		
<i>Cirphis unipuncta</i> Haw.		
<i>Aleurocanthus coronatus</i> Quaint. - - - - -	3	119
<i>Aleyrodes hibisci</i> Kot. - - - - -	10	466
<i>Aleyrodidae</i> - - - - -	2	69
<i>Alsophila pometaria</i> Harr. - - - - -	1	14, 32
	3	80, 106
	4	153
	5	198, 217-218
<i>Amorbia humerosana</i> Clem. - - - - -	6	308
<i>Amphicerus bicaudatus</i> Say - - - - -	2	56
<i>Aryosoma chilonis</i> Vier.- - - - -	10	466
<i>Anabrus simplex</i> Hald.- - - - -	3	84
	4	131, 143
	6	262
	10	439
<i>Anarsia lineatella</i> Zell.- - - - -	4	153
	5	220
	6	282
	8	353

<i>Anasa tristis</i> DeG. - - - - -	2	64
	3	80, 115
	5	236-237
	6	296
	7	337-338
	8	385
	9	401, 425
	10	455
<i>Anastrepha ludens</i> Loew - - - - -	10	451
<i>Ancylis comptana</i> Froel. - - - - -	4	175
	5	233
	6	291
	7	335
<i>Andricus punctatus</i> Bass. - - - - -	6	306
<i>Anisolabis annulipes</i> Lucas - - - - -	8	381
<i>Anisota rubicunda</i> Fab. - - - - -	7	318, 341, 343
	8	387
	10	461
<i>Anisota</i> sp. - - - - -	1	34
<i>Anomala orientalis</i> Waterh. - - - - -	1	10
	4	142
	10	449, 464-465
<i>Anomis erosa</i> Hbn. - - - - -	9	427
<i>Anthicus californicus</i> Laf. - - - - -	8	384
<i>Anthonomus grandis</i> Boh. - - - - -	10	457
<i>Anthonomus scutellaris</i> Lec. - - - - -	7	331
	8	375
	9	416
<i>Anthonomus signatus</i> Say - - - - -	2	63
	3	80, 113
	4	175
	5	233
<i>Anthrenus scrophulariae</i> L. - - - - -	2	75
	3	128
<i>Anticarsia gemmatilis</i> Hbn. - - - - -	5	214
	6	276
	7	317, 326
	8	367
	9	399, 408
	10	442
<i>Antipus laticlavus</i> Forst. - - - - -	4	165
<i>Amuraphis maidi-radiciis</i> Forbes - - - - -	5	212
	7	325
<i>Anuraphis roseus</i> Bak. - - - - -	2	49
	3	93-94
	4	149
	5	215-216
<i>Aurogryllus muticus</i> DeG. - - - - -	6	276
<i>Apanteles carpatus</i> Say - - - - -	3	127

<i>Apatides fortis</i> Lec. - - - - -	6	314
<i>Aphidius</i> sp. - - - - -	5	236, 237
<i>Aphididae</i> - - - - -	1	7, 13, 25
	2	43, 48-49, 62-69
	3	79, 92
	4	148, 187
	5	224, 227, 230
	6	275, 285, 310
	8	353
	10	450
<i>Aphis abietina</i> Walk. - - - - -	-1	35
<i>Aphis forbesi</i> Weed- - - - -	2	63
	3	114
	4	176
	6	292
<i>Aphis gossypii</i> Glov.- - - - -	1	28
	4	179
	6	295
	9	425
<i>Aphis mali</i> Fab. See <i>Aphis pomis</i> DeG.		
<i>Aphis medicaginis</i> Koch - - - - -	1	12
	2	58
<i>Aphis nerii</i> Fonsc.- - - - -	4	189
	5	251
<i>Aphis pomi</i> DeG. - - - - -	2	49
	3	92-93
	4	148-149
	5	215
	6	259
	8	353
<i>Aphis pseudobrassicae</i> Davis. See <i>Rhopalosiphum pseudobrassicae</i> Davis		
<i>Aphis ruricis</i> L. - - - - -	-4	178
	6	276, 294
	9	424
<i>Aphis spiraeicola</i> Patch - - - - -	1	8, 21
	2	44, 57
	3	108, 122
	4	168, 190
	5	198, 228
	6	286
	7	352
	9	418
	10	451
<i>Aphis viburnicola</i> Gill.- - - - -	4	185
<i>Aphrophora parallela</i> Say - - - - -	5	248
<i>Aphytis</i> sp. - - - - -	4	169
<i>Archips argyrospila</i> Walk. - - - - -	2	44, 52
	3	97
	4	154
	5	199, 218, 247
	6	259
	10	447

<i>Argas miniatus</i> Koch - - - - -	9	401,434
<i>Argyresthia thuiella</i> Pack. - - - - -	4	187
	8	391
<i>Argyroplote hebesana</i> Wulk. - - - - -	5	282
<i>Argyrotoxa senipurpurana</i> Kearf. - - - - -	4	184
<i>Armadillidium vulgare</i> Latr. - - - - -	2	69
<i>Aschersonia</i> sp. - - - - -	4	169
<i>Asellus communis</i> Say - - - - -	2	72
<i>Aserica castanea</i> Arrow - - - - -	1	10
	10	449
<i>Aspidiotus hederæ</i> Vallot - - - - -	8	392
	9	431
<i>Aspidiotus juglans-regiæ</i> Const. - - - - -	7	345
<i>Aspidiotus lataniæ</i> Sign. - - - - -	2	69
<i>Aspidiotus perniciosus</i> Comst. - - - - -	1	7,15-17
	2	52-53
	3	98-99
	5	198,219-220
	9	400,412
	10	449
<i>Asterolecanium variolosum</i> Ratz. - - - - -	5	247
	6	306
<i>Atractomorpha ambigua</i> Bol. - - - - -	1	25
<i>Atta texana</i> Buckl. - - - - -	4	169
<i>Aulacaspis pentagona</i> Targ. - - - - -	1	20
	9	415
<i>Autographa brassicæ</i> Riley - - - - -	8	352,382
	9	400,422
	10	454
<i>Azya lutipes</i> Muls. - - - - -	10	466
<i>Bactrocera cucurbitæ</i> Coq. - - - - -	10	464
<i>Balaninus caryæ</i> Horn - - - - -	8	377
	9	417
<i>Barathra configurata</i> Walk. - - - - -	7	320
	8	352
	10	440
<i>Bembecia marginata</i> Harr. - - - - -	4	163
<i>Blatta orientalis</i> L. - - - - -	3	127
<i>Blattella germanica</i> L. - - - - -	2	72
<i>Blissus leucopterus</i> Say - - - - -	1	11
	3	79,88
	4	144
	5	197,209
	6	274
	7	323
	8	364
	9	338,406
	10	445
<i>Bolbocerosoma bruneri</i> D. & McC. - - - - -	9	400,409
	10	463
<i>Bostrichidae</i> - - - - -	7	347

Brachyrhinus ovatus L. - - - - -	3	80, 113
	4	175
	5	233
Brachyrhinus spp. - - - - -	6	292
Brachyrhinus sulcatus Fab. - - - - -	6	309
	7	345
Brevicoryne brassicae L. - - - - -	1	26-27
	2	62
	3	112
	4	133, 174
	6	290-291
	7	334-335
	9	423
	10	454-455
Bruchophagus funebris How. - - - - -	3	91
Bryobia praetiosa Koch - - - - -	3	80-81, 89, 124
	4	190
	5	252
Bucculatrix canadensisella Chamb. - - - - -	8	352, 354, 388
Byturus unicolor Say - - - - -	4	162-163
	5	225
	6	283
	10	450
Cacoecia cerasivorana Fitch - - - - -	5	198, 242
	6	259
Cacoecia fumiferana Glen. See		
Harmologa fumiferana Glen.		
Cacoecia obsoletana Walk. - - - - -	4	175
Cacoecia rosaceana Harr. - - - - -	4	189
Calendra granaria L. - - - - -	2	75
Calendra oryzae L. - - - - -	2	74
	9	434
Caliroa aethiops Fab. - - - - -	5	251
Calligrapha multipunctata Say - - - - -	6	309
Calligrapha scalaris Lec. - - - - -	4	133, 183
	5	244
	6	302
	7	342
Callipterus juglandis Frisch - - - - -	6	284
	8	377
Calpodes ethlius Cran. - - - - -	4	133, 188
	5	250
	6	311
	7	345
	8	391
Camnula pellucida Scudd. - - - - -	5	201
	6	261
	7	319
Camponotus herculeanus L. - - - - -	2	74
Camponotus herculeanus pennsylvanicus DeG. - - -	3	126
	4	192

<i>Campylenchia curvata</i> Fab. - - - - -	6	289
<i>Carpocapse pomonella</i> L. - - - - -	1	7, 13-14
	2	43, 50
	3	80, 82, 94, 95
	4	149-150-151
	5	216-217
	6	258, 276-277
	7	318, 327-328
	8	351, 353, 369-370
	9	400, 410-411
	10	437, 446
<i>Carpophilus antiquus</i> Melsh. - - - - -	3	128
<i>Carpophilus hemipterus</i> L. - - - - -	8	395
<i>Carpophilus humeralis</i> Fab. - - - - -	1	24
Cassidinae - - - - -	6	297
<i>Catocala viduata</i> Guen. - - - - -	4	168
	5	237
<i>Cecidomyia ocellaris</i> O. S. - - - - -	9	428
<i>Celerio lineata</i> Fab. - - - - -	5	197, 204
	6	257, 263
	7	317, 320
	10	463
<i>Cephus cinctus</i> Nort. - - - - -	3	82
	4	134
	8	353
Cerambycidae - - - - -	4	193
<i>Ceratina</i> sp. - - - - -	3	127
<i>Ceratitis capitata</i> Wied. - - - - -	1	21
	7	331-332
	10	450-451
<i>Ceratophyllus gallinae</i> Schrank - - - - -	5	200
<i>Ceratophyllus niger</i> Fox - - - - -	8	394
Cercopidae - - - - -	4	177
<i>Ceresa bubalus</i> Fab. - - - - -	3	92
	9	427
<i>Ceresa occidentalis</i> Funth. - - - - -	8	368
<i>Ceromasia sphenophori</i> Vill. - - - - -	10	405
<i>Ceroplastes cirripediformis</i> Const. - - - - -	1	36
<i>Cerotoma trifurcata</i> Forst. - - - - -	3	115
	4	177-178
	5	235
	6	293
	9	408
<i>Ceutorhynchus rapae</i> Gyll. - - - - -	5	232
<i>Chaetocnema pulicaria</i> Melsh. - - - - -	3	89
<i>Chalcodermus aeneus</i> Boh. - - - - -	5	214
	7	326
	9	408
<i>Chalcophora georgiana</i> Lec. - - - - -	10	464
<i>Chalcophora liberta</i> Gern. - - - - -	9	429
	10	464

<i>Chalcophora virginensis</i> Drury - - - - -	9	429
<i>Chelymorpha cassidea</i> Fab. - - - - -	6	297
<i>Chermes abietis</i> L. - - - - -	4	186
	7	344
<i>Chermes pinicorticis</i> Fitch - - - - -	3	119
	4	185
	5	248
	7	344
	8	390
<i>Chermes pinifoliae</i> Fitch - - - - -	5	248
<i>Chilo plejadellus</i> Zinck. - - - - -	7	340
<i>Chilo simplex</i> Butl. - - - - -	10	466
<i>Chionaspis americana</i> Johns. - - - - -	1	34
	4	183
	5	245
<i>Chionaspis etrusca</i> Leon. - - - - -	6	308
<i>Chionaspis euonymi</i> Comst. - - - - -	1	37
	2	44,70,71
	9	432
<i>Chionaspis furfura</i> Fitch - - - - -	1	17
	3	99
<i>Chionaspis ortholobis</i> Comst. - - - - -	2	67
<i>Chionaspis pinifoliae</i> Fitch - - - - -	1	35
	2	68
	3	119
	4	185
	6	307
	9	430
<i>Chirothrips mexicanus</i> Crawl. - - - - -	1	31-32
<i>Chloridea virescens</i> Fab. See <i>Heliothis virescens</i> Fab.		
<i>Chlorippe celtis</i> Bd. & Lec. - - - - -	6	304
<i>Chlorochroa sayi</i> Stal. - - - - -	8	352,368,380
<i>Chorizagrotis auxiliaris</i> Grote - - - - -	2	43,46
	3	79,85
	4	131,138
	5	203
	10	440
<i>Chrysobothris femorata</i> Oliv. - - - - -	5	244
	6	305
	7	328
	9	413
<i>Chrysobothris floricola</i> Gory - - - - -	9	129
<i>Chrysobothris fragariae</i> Fisher - - - - -	11	17
	3	112-113
	10	464
<i>Chrysobothris fuscescens</i> Fall (misdet.) See <i>C. fragariae</i> Fisher)		
<i>Chrysobothris</i> sp. - - - - -	3	112-113
<i>Chrysomela</i> sp. - - - - -	1	22
	2	59
	4	132,169

<i>Chrysomphalus dictyospermi</i> Morg. - - - - -	2	59
<i>Chrysomphalus ficus</i> Ashm. - - - - -	1	22
	2	59
	3	121
	9	400, 419
	10	452
<i>Chrysomphalus tenebricosus</i> Comst. - - - - -	2	4, 68
<i>Cicadellidae</i> - - - - -	1	15
	3	97
	4	154-155
	5	198, 218-219
	6	258, 278
	8	353
	9	400, 411-412
<i>Cimex lectularius</i> L. - - - - -	2	72
<i>Cirphis roseola</i> Sr. - - - - -	3	85
<i>Cirphis unipuncta</i> Haw. - - - - -	1	10
	4	157
	5	197, 215
	6	272
	7	324
<i>Cladius isomerus</i> Nort. - - - - -	4	189
<i>Clastoptera obtusa</i> Say - - - - -	3	107
	5	227
	6	285
<i>Clastoptera pini</i> Fitch - - - - -	5	249
<i>Cleonus piger</i> Scop. - - - - -	2	74
	9	401, 434
	10	433
<i>Clepsis cockerellana</i> Kearf. See		
<i>Tortrix cockerellana</i> Kearf.		
<i>Cnephasia longana</i> Haw. - - - - -	4	188
<i>Cnidocampa flavescens</i> Walf. - - - - -	5	242
<i>Coccinella transversomaculata</i> Fab. - - - - -	4	1-7
<i>Coccotorus prunicide</i> Walsh. See		
<i>Anthonomus scutellaris</i> Lec.		
<i>Coccus elongatus</i> Sign. - - - - -	1	36
<i>Coccus hesperidum</i> L. - - - - -	2	71
	3	120
	8	378
<i>Coccus viridis</i> Green - - - - -	3	120
	10	436
<i>Colaspis brunnea</i> Fab. - - - - -	4	146
<i>Coleophora caryae-foliella</i> Clem. - - - - -	3	106
	4	165-166
	9	417
<i>Coleophora fletcherella</i> Fern. - - - - -	8	378
<i>Coleophora laricella</i> Hbn. - - - - -	4	133, 134, 164
	5	248
<i>Coleophora malivorella</i> Riley - - - - -	6	278
<i>Coleophora pruniella</i> Clem. - - - - -	2	85
<i>Coleophora saluani</i> Hein. - - - - -	6	301

<i>Colaspophora</i> spp. - - - - -	3	96
	4	153
	5	218
<i>Colletes</i> - - - - -	6	299
	8	386
<i>Colophila ulmicola</i> Fitch - - - - -	5	244
	6	303
<i>Coniontis</i> sp. - - - - -	3	80, 113
<i>Conocentrus saltator</i> Sauss. - - - - -	1	23
<i>Conotrachelus aratus</i> Gern. - - - - -	4	168
<i>Conotrachelus crataegi</i> Walsh - - - - -	9	415
<i>Conotrachelus nemophor</i> Host. - - - - -	1	8, 19
	2	44, 54-55
	3	80, 82, 102-103
	4	132, 158, 161
	5	198, 222-223
	6	280-282
	7	318, 330-331
	8	374
	9	414-415
	10	447-448
<i>Contarinia pyrivora</i> Riley - - - - -	4	132, 156
<i>Corizus hyalinus</i> Fab. - - - - -	8	392
<i>Corythaea monacha</i> Stal - - - - -	2	61
<i>Corythucha cydoniae</i> Fitch - - - - -	5	223
	8	392
<i>Corythucha marmorata</i> Uhl. - - - - -	7	345
	8	392
	9	431
<i>Corythucha</i> sp. - - - - -	3	97-98
<i>Cossula magnifica</i> Stoecker - - - - -	2	57
	3	107
<i>Cotinis nitida</i> L. - - - - -	2	46
	3	114
	6	285, 299
<i>Crambidae</i> - - - - -	8	336
<i>Cranbus luteolellus</i> Glen. - - - - -	4	145
<i>Cranbus</i> sp. - - - - -	4	131, 145-146
	5	211-212
	6	299
	8	391
<i>Cranbus teterrellus</i> Zincka - - - - -	4	145
<i>Cremastus aster levinuscula</i> Mayr, var.		
<i>clavicornis</i> Mayr - - - - -	5	274
<i>Cremastus vernalis</i> Vier. - - - - -	10	466
<i>Crioceris</i> - - - - -	3	114
	5	233
	7	318, 335
	9	423
<i>Crioceris duodecimpunctata</i> L. - - - - -	5	253
<i>Cryptococcus fagi</i> Boer. - - - - -	3	83
	8	353

<i>Cryptolaemus montrouzieri</i> Muls. - - - - -	10	466
<i>Cryptorhynchus lepathi</i> L. - - - - -	6	309
- - - - -	7	345
<i>Cryptorhynchus mangiferae</i> Fab. - - - - -	10	465
<i>Cryptothrips floridensis</i> Watson - - - - -	6	302
<i>Ctenocephalus canis</i> Curt. - - - - -	8	393
<i>Ctenocephalus felis</i> Bouche - - - - -	2	72
- - - - -	8	393
Curculionidae - - - - -	6	292
<i>Culex</i> sp. - - - - -	6	312
- - - - -	8	393
Culicinae - - - - -	2	71
- - - - -	3	123
- - - - -	5	252
- - - - -	6	311-312
- - - - -	7	346
- - - - -	8	352
- - - - -	9	433
<i>Cyclocephala immaculata</i> Oliv. See		
<i>Ochrosidia immaculata</i> Oliv.		
<i>Cylas formicarius</i> Fab. - - - - -	5	239
- - - - -	10	454
<i>Cyrtorhinus mundulus</i> Bredd. - - - - -	1	31
- - - - -	10	465
<i>Dactylopius tomentosus</i> Lam. - - - - -	8	391
<i>Datana integerrima</i> G. & R. - - - - -	4	167
- - - - -	6	285
- - - - -	8	377
- - - - -	9	427
<i>Datana ministra</i> Drury - - - - -	7	328
<i>Dendroctonus brevicornis</i> Lec. - - - - -	10	462
<i>Dendroctonus frontalis</i> Zinn. - - - - -	9	401, 429
- - - - -	10	461
<i>Dendroctonus monticolae</i> Hopk. - - - - -	9	401, 429
- - - - -	10	462
<i>Dendroctonus piceaperda</i> Hopk. - - - - -	5	249
<i>Dendroctonus</i> sp. - - - - -	8	354
<i>Dendroctonus terebrans</i> Oliv. - - - - -	6	306
<i>Dermacentor variabilis</i> Say - - - - -	5	253
<i>Dermanyssus gallinae</i> Redi - - - - -	8	394
<i>Dermestes lardarius</i> L. - - - - -	3	127
- - - - -	8	395
<i>Desmia funeralis</i> Hbn. - - - - -	4	163
- - - - -	6	253
<i>Diabrotica balteata</i> Lec. - - - - -	1	13
- - - - -	5	238
- - - - -	8	379
<i>Diabrotica duodecimpunctata</i> Fab. - - - - -	1	20, 28
- - - - -	2	60, 63-64
- - - - -	3	110
- - - - -	4	170, 186
- - - - -	5	212

Diabrotica duodecimpunctata Fab. (cont.) - -	6	294
	7	333
	8	384
	9	425
Diabrotica filicornis Horn - - - - -	7	317, 325
	9	408
Diabrotica longicornis Say - - - - -	7	325
	8	366-367
	9	408
Diabrotica soror Lec. - - - - -	1	28
	3	90
	8	385
Diabrotica spp. - - - - -	7	325
	9	407-408
Diabrotica trivittata Mann. - - - - -	6	295
Diabrotica virgifera Lec. - - - - -	7	317, 325
	8	367
	9	408
Diabrotica vittata Fab. - - - - -	1	28
	2	60, 63
	3	105
	4	179
	5	236
	6	259, 294-295
	7	337
	8	353, 384
	9	425
Dialeurodes citri Ashm. - - - - -	1	21-22
	2	58
	3	108, 121
	5	227
	6	286
	7	318, 332
	8	390
	9	400, 418
	10	452
Dialeurodes citrifolii Morg. - - - - -	4	169
	8	378
Diaphania hyalinata L. - - - - -	4	179
	9	425
Diaphania nitidalis Stoll - - - - -	3	115
	6	296
	8	385
Dianderonema femorata Say - - - - -	10	464
Diarthronomyia hypogaea Loew - - - - -	2	70
	7	345
Diaspis corneli Long. - - - - -	1	34
	5	245
	9	428
Distranea saccharalis Fab. - - - - -	1	8, 30-31
	4	181-182
	5	198-240

<i>Diatraea saccharalis</i> Fab. (cont.) - - - - -	6	300
	7	340
	8	386
	9	409
	10	443
<i>Diatraea zeacolella</i> Dyar - - - - -	9	408
<i>Diceroprocta viridifascia</i> Walk. (misdet.)		
See <i>Tibicen davisi</i> Sn. & Grsb.		
<i>Dichomeris marginellus</i> Fab. - - - - -	3	80,118
	5	245
<i>Dicyphus minimus</i> Uhler - - - - -	4	173
<i>Dilachnus</i> sp. - - - - -	4	187-188
<i>Dilachnus thujafolia</i> Theob. - - - - -	3	120-121
<i>Diocles chilonis</i> Cushn. - - - - -	10	466
<i>Diploptaxis frondicola</i> Say - - - - -	4	161
<i>Diploptaxis</i> sp. - - - - -	3	122
	4	176
<i>Diprion abbotii</i> Leach - - - - -	8	389-390
<i>Dolichopus ramifir</i> Loew - - - - -	3	123
<i>Dorymyrmex pyramicus</i> Roger - - - - -	8	395
<i>Dyslobus decoratus</i> Lec. - - - - -	3	80,113
<i>Dyslobus</i> spp. - - - - -	6	292
<i>Eburia quadrigeminata</i> Say - - - - -	5	254
<i>Ecdytolopha insiticiaria</i> Zell. - - - - -	6	305
<i>Eciton carolinensis</i> Emery - - - - -	1	40
<i>Eciton mexicanum</i> Smith-Mayr - - - - -	6	314
<i>Eciton pilosus</i> Smith - - - - -	3	126
<i>Eurhornia cupressi</i> Ehrh. - - - - -	1	8,33-34
	2	67
<i>Elasmopalpus lignosellus</i> Zell. - - - - -	6	273
	7	325
	8	366
<i>Elaterridae</i> - - - - -	1	9
	2	45
	3	79,81,86
	4	131,139-140
	5	197,199,204-206
	6	263
	7	320
	8	358
	10	439
<i>Eleodes opaca</i> Say - - - - -	2	48
	5	206
	6	264
	10	440
<i>Eleodes</i> sp. - - - - -	3	80,113
<i>Ellopiia fiscellaria</i> Guen. - - - - -	6	260
	8	324
<i>Ellopiia somnaria</i> Hlst. - - - - -	6	306
	8	373,389
	9	429

<i>Empoasca fabae</i> Harr. - - - - -	1	26
	3	111
	4	173
	5	231, 235
	6	258, 289, 294
	7	333-334
	8	380
<i>Empoasca mali</i> LeB. - - - - -	9	424
<i>Empria fragariae</i> Rohw. - - - - -	5	233
<i>Encarsia</i> sp. - - - - -	10	466
<i>Ephestia lachniella</i> Zell. - - - - -	3	127
<i>Ephialtes pedalis</i> Cress. - - - - -	2	65
<i>Ephialtes sanguinipes</i> Cress. - - - - -	2	65
<i>Epicaerus imbricatus</i> Say - - - - -	4	178
<i>Epicauta cinerea</i> Forst. - - - - -	7	333
<i>Epicauta lemniscata</i> Fab. - - - - -	4	170
<i>Epicauta maculata</i> Say - - - - -	6	287
<i>Epicauta marginata</i> Fab. - - - - -	7	333
	8	379
<i>Epicauta pennsylvania</i> DeG. - - - - -	8	379
<i>Epicauta</i> spp. - - - - -	6	287
<i>Epicauta vittata</i> Fab. - - - - -	4	171
	6	287
	7	333
	8	379
<i>Epilachna borealis</i> Fab. - - - - -	9	425
<i>Epilachna corrupta</i> Muls. - - - - -	1	27
	3	82, 114
	4	133, 177
	5	198, 234-235
	6	258, 292-293
	7	318, 335-337
	8	383-384
	9	400, 424
	10	437, 452
<i>Epinotia nanana</i> Treit. - - - - -	4	133, 186
	5	249
	7	344
	8	390
	9	430
	10	461
<i>Epitrix cucumeris</i> Harr. - - - - -	3	89
	5	231
	6	288
	8	381
	9	420
<i>Epitrix parvula</i> Fab. - - - - -	2	65
	3	116-117
	4	181
	5	239
	7	339
	9	420

<i>Epochra canadensis</i> Loew - - - - -	4	165
	8	353
<i>Erannis tiliaria</i> Harr. - - - - -	5	240
<i>Eriocampoides limacina</i> Retz. - - - - -	6	232
	8	353
<i>Eriophyes abnormis</i> Garm. - - - - -	6	304
<i>Eriophyes fraxiniflora</i> Felt - - - - -	9	416
<i>Eriophyes fraxiniflora</i> Felt - - - - -	9	427
<i>Eriophyes gracilis</i> Nal. - - - - -	8	375
<i>Eriophyes oleivorus</i> Ashm.		
See <i>Phyllocoptes oleivorus</i> Ashm.		
<i>Eriophyes pyri</i> Pgst. - - - - -	3	100
	4	156
	6	282
	8	374
<i>Eriophyes</i> sp. - - - - -	2	70
	8	375
	9	416
<i>Eriophyes ulmi</i> Garm. - - - - -	6	304
<i>Eriosoma americanum</i> Riley - - - - -	6	303
<i>Eriosoma lanigerum</i> Hausm. - - - - -	2	49
	5	244
	8	353
	9	400, 412
<i>Eriosoma</i> spp. - - - - -	5	244
<i>Erythroneura comes</i> Say - - - - -	1	20
	3	105
	4	163
	5	225
	8	353, 376
<i>Erythroneura hartii</i> Gill. - - - - -	6	278
<i>Erythroneura obliqua</i> Say - - - - -	9	412
<i>Erythroneura tricineta</i> Fitch - - - - -	8	376
<i>Estigmene acrea</i> Drury - - - - -	5	214
<i>Eutheola rugiceps</i> Lec. - - - - -	4	132
<i>Eulecanium corni</i> Bouche.		
See <i>Lecanium corni</i> Bouche		
<i>Eulecanium nigrofasciatum</i> Perg. - - - - -	5	242
<i>Eulia velutinana</i> Walk. - - - - -	5	218
<i>Eumerus strigatus</i> Fallen - - - - -	3	80, 122
	9	433
<i>Eumerus tuberculatus</i> Rond. - - - - -	9	433
<i>Euphydryas taylori</i> Edw. - - - - -	3	85-86
<i>Eurytus eurytheme</i> Boisd. - - - - -	1	12
	3	90
	4	147
	5	215
<i>Euschausia argentata</i> Pack. - - - - -	1	34
<i>Eusimulium pecuarum</i> Riley - - - - -	2	72
<i>Eusimulium</i> sp. - - - - -	7	123

<i>Eutettix tenellus</i> Baker - - - - -	1	30
	2	64-65
	3	116
	4	180
	5	233-239
	6	298
	7	339
	8	352, 385-386
	9	426
	10	456
<i>Euxoa auxiliaris</i> Grote.		
See <i>Chorizagrotis auxiliaris</i> Grote		
<i>Euxoa detersa</i> Walk. - - - - -	5	203
<i>Euxoa messoria</i> Harr. - - - - -	3	85
<i>Euxoa ochrogaster</i> Guen. - - - - -	4	138
	5	199, 203
	8	356
<i>Euxoa septentrionalis</i> Walk. - - - - -	3	85
<i>Euxoa</i> sp. - - - - -	4	139
<i>Euxoa tristicula</i> Morr. - - - - -	4	134
<i>Evetria buoliana</i> Schiff. - - - - -		
See <i>Rhyacionia buoliana</i> Schiff.		
<i>Feltia annexa</i> Treit. - - - - -	9	404
<i>Feltia gladiaria</i> Morr. - - - - -	3	85
	4	137
<i>Feltia vancouverensis</i> Grote - - - - -	5	204
<i>Fenusa pumila</i> Klug - - - - -	5	243
	7	342
<i>Fidia viticida</i> Walsh - - - - -	5	225
	6	283
<i>Fiorinia fioriniae</i> Targ. - - - - -	9	431
<i>Forficula auricularia</i> L. - - - - -	1	40
	6	314
<i>Formica fusca</i> L. - - - - -	3	126
	4	192
<i>Formica rufa</i> L. - - - - -	5	253
<i>Formicidae</i> - - - - -	1	39-40
	3	126
	4	192
	5	253-254
	6	313-314
	7	317
	8	394-395
<i>Frankliniella fusca</i> Hinds - - - - -	5	239
<i>Frankliniella tritici bispinosa</i> Morg. - - - - -	1	21
<i>Frankliniella tritici</i> Fitch - - - - -	3	88
	4	131, 142
	8	390
<i>Fulgoridae</i> - - - - -	5	248-249

<i>Galerucella xanthomelaena</i> Schrank - - - - -	1	34
	6	258,302
	7	342
	8	352,322
	10	461
<i>Gargaphia solani</i> Heid. - - - - -	6	297
<i>Gastrophilus haemorrhoidalis</i> L. - - - - -	8	394
<i>Geocoris punctipes</i> Say - - - - -	8	368
<i>Geoderces melanothrix</i> Kby. - - - - -	3	80,114
<i>Geocica radiceicola</i> Essig - - - - -	5	235
<i>Geshna cannalis</i> Quaint. - - - - -	4	133,188
<i>Glycobius speciosus</i> Say - - - - -	6	305
<i>Glypta rufiscutellaris</i> Cress. - - - - -	9	414
<i>Goniurus proteus</i> L. - - - - -	6	294
<i>Gossyparia spuria</i> Mod. - - - - -	1	34
	2	67
	3	118
	4	184
	5	245
	6	303
	9	428
<i>Graptolitha antennata</i> Walk. - - - - -	4	153
<i>Gryllotalpa africana</i> Beauv. - - - - -	1	31
<i>Gryllotalpa hexadactyla</i> Perty - - - - -	2	60
	3	110
	4	185
<i>Gryllus assimilis</i> Fab. - - - - -	4	143
	7	348
	8	368
	9	402
<i>Gryllus domesticus</i> L. - - - - -	7	348
<i>Haematobia irritans</i> L. - - - - -	3	124
	5	252
	6	312
<i>Haemogamasus</i> sp. - - - - -	4	193
<i>Haltica chalybea</i> Ill. - - - - -	4	163-164
<i>Haltica litigata</i> Fall - - - - -	6	311
<i>Halticinae</i> - - - - -	3	110
	4	170
	5	199
<i>Halticus citri</i> Ashm. - - - - -	2	69
<i>Harmolita grandis</i> Riley - - - - -	2	47
	3	88
	5	208
	7	322
	8	364
<i>Harmolita tritici</i> Fitch - - - - -	4	143
	5	208
	6	262
	8	363

<i>Harmologa fumiferana</i> Clem. - - - - -	2	68
	3	83, 120
	4	133, 186
	5	249
	6	258-259, 308
	9	430
	10	461
<i>Heliothis obsoleta</i> Fab. - - - - -	1	12
	2	48
	3	79, 89
	4	131, 144
	5	198, 210
	6	258, 272-273
	7	324-325
	8	364-365, 367
	9	399, 404, 406-407
	10	442-443
<i>Heliothis</i> sp. - - - - -	1	21
<i>Heliothis virescens</i> Fab. - - - - -	4	181
	7	339
<i>Heliothrips fasciatus</i> Perg. - - - - -	1	27
	2	63
<i>Heliothrips haemorrhoidalis</i> Bouche - - - -	7	346
<i>Hellula undalis</i> Fab. - - - - -	8	352, 382
	9	419, 420
	10	454
<i>Hemerocampa leucostigma</i> S. & A. - - - - -	1	32
	3	117
	5	241
<i>Hemerocampa pseudotsugata</i> McD. - - - - -	6	260
	9	401, 428
<i>Hemerophila pariana</i> Clerck - - - - -	3	82
<i>Hemichionaspis aspidistrae</i> Sign. - - - - -	2	70
	3	121
<i>Hemichionaspis minor</i> Mask. - - - - -	10	126
<i>Hemiptera</i> - - - - -	8	368
<i>Herse cingulata</i> Fab. - - - - -	1	30
<i>Heterocampa bilineata</i> Pack. - - - - -	7	343
<i>Heterocampa guttivitta</i> Walk. - - - - -	7	318, 340-341
	8	387
	10	461
<i>Heteroderes laurentii</i> Guer. - - - - -	3	86
	4	131, 140
	5	205
	7	320
	10	440
<i>Hippelates pusio</i> Malloch - - - - -	5	252
	7	346
<i>Hippiscus corallipes</i> Hald. - - - - -	3	84
<i>Hippodamia convergens</i> Guer. - - - - -	5	235
	6	271

Horistonotus uhleri Horn - - - - -	5	205
	7	320
	10	439
Hyalopterus arundinis Fab. - - - - -	2	56
	3	104
	5	224
Hylastinus obscurus Marsham - - - - -	3	90
Hylemyia antiqua Meig. - - - - -	4	179-180
	5	198, 199, 237-238
	6	259, 297
Hylemyia brassicae Bouche - - - - -	1	27
	2	62
	3	112
	4	174
	5	232
	6	259
	9	422
Hylemyia cilicrura Rond. - - - - -	2	61
	3	80, 109
	4	133, 171
	5	198, 229
	6	287
	10	456
Hylotoma pectoralis Leach - - - - -	8	388
Hylotrupes bajulus L. - - - - -	4	192
Hylurgopinus rufipes Eich. - - - - -	6	303
Hymenia fascialis Cram. - - - - -	9	426
Hypera punctata Fab. - - - - -	1	12
	2	48
	3	79, 89-90
	4	147
	5	235
Hypermallus villosus Fab. - - - - -	6	305-306
	7	343
Hyphantria cunea Dru. - - - - -	4	166-167
	5	226
	6	284, 300
	7	340
	8	352, 354, 386-387
	9	427
Hypoderma bovis DeG. - - - - -	3	124
Hypsopygia costalis Fab. - - - - -	4	147
Hysteroneura setariae Thos. - - - - -	2	55
	3	104
	4	132, 162
	5	224
	10	450
Icerya purchasi Mask. - - - - -	1	36
	2	57, 59
	3	108
	5	223

<i>Illinoia pisi</i> Kalt. - - - - -	1	12, 27
	2	43, 48
	3	90-91
	4	133, 147, 178
	5	235-236
	6	275
	8	367
	10	455
<i>Illinoia solanifolii</i> Ashm. - - - - -	1	26
	2	61
	3	122
	4	173, 189
	5	231
<i>Ips calligraphus</i> Germ. - - - - -	6	306
	7	343
<i>Iridomyrmex analis</i> Andre - - - - -	6	314
<i>Iridomyrmex humilis</i> Mayr - - - - -	1	8, 38-39
	2	73
	3	81, 125-126
	4	133, 192-193
	6	314
	10	463
<i>Iridomyrmex pruinosus</i> var. <i>analis</i> Andre - -	5	254
<i>Ixodidae</i> - - - - -	4	134-135
<i>Kaloterms hubbardi</i> Banks - - - - -	5	253
<i>Kaloterms minor</i> Hagen - - - - -	6	313
<i>Kentronothrips lawaliensis</i> Moulton - - - - -	1	32
<i>Laphygma frugiperda</i> S. & A. - - - - -	5	209-210
	6	258, 271-272
	7	317, 323-324
	8	351, 356-358
	9	399, 403-404
	10	442
<i>Lasioderma serricorne</i> Fab. - - - - -	1	40
	2	75
	3	128
<i>Lasius interjectus</i> Mayr - - - - -	3	126
<i>Lasius niger neoniger</i> Emery - - - - -	4	192
<i>Laspeyresia caryana</i> Fitch - - - - -	1	20
	2	56
	3	107
	4	165
	6	235
	8	376
<i>Laspeyresia molesta</i> Busck - - - - -	1	7, 18-19
	2	54
	3	30, 82, 101-102
	4	132, 156-158
	5	220-222
	6	279-280
	7	318, 329-330
	8	351, 353, 372-374
	9	414
	10	437, 446

<i>Laspeyresia nigricana</i> Steph. - - - - -	7	337
<i>Lathrodectes mactans</i> Fab. - - - - -	8	393
<i>Lecanium corni</i> Bouche - - - - -	4	162, 188
	6	310
<i>Lecanium quercifex</i> Fitch - - - - -	3	113
<i>Lepidocyrtus cyaneus</i> Tullb. - - - - -	8	386
<i>Lepidoptera</i> - - - - -	8	377-378
<i>Lepidosaphes alba</i> Ckll. - - - - -	4	169
<i>Lepidosaphes beckeri</i> Newm. - - - - -	1	23
	2	53, 59, 71
	3	108
	9	400, 419
	10	452
<i>Lepidosaphes camelliae</i> Boisd. - - - - -	9	431
<i>Lepidosaphes ulmi</i> L. - - - - -	1	17
	2	53, 71
	3	32-83, 99, 118
	4	155
	6	301
	8	353, 371
	9	431
<i>Lepisma saccharina</i> L. - - - - -	3	127
<i>Lepisma</i> sp. - - - - -	2	75
<i>Leptinotarsa decemlineata</i> Say - - - - -	1	26
	2	61
	3	80, 32, 111
	4	133, 172-173
	5	230-231
	6	253, 259, 288
	9	400, 420
	10	453
<i>Leptocoris trivittatus</i> Say - - - - -	1	33
	2	66
	8	332-333
<i>Leptoglossus phyllopus</i> L. - - - - -	5	227
<i>Leucotermes (Leucotermes) aureus</i> Snyder - - -	6	313
<i>Limoniuss</i> sp. - - - - -	4	139, 140
<i>Liponyssus bacoti</i> Hirst - - - - -	1	8, 37
<i>Lissorhoptrus simplex</i> Say - - - - -	4	162
<i>Listroderes obliquus</i> Gyll. - - - - -	1	8, 25
	2	44, 60
	3	109
	4	133, 170
	5	196, 229
	6	379
	9	410
	10	453
<i>Listronotus latiusculus</i> Boh. - - - - -	6	297
	8	379
	9	426
<i>Lithocolletis</i> sp. - - - - -	9	429

<i>Litomastix floridana</i> Ashm. - - - - -	10	466
<i>Lixus concavus</i> Say - - - - -	5	239
<i>Longistigma caryae</i> Harr. - - - - -	4	168
<i>Longitarsus mentelaphagus</i> Gentner - - - - -	5	239
	6	298
<i>Loxostege similalis</i> Guen. - - - - -	3	116
	9	419
<i>Loxostege sticticalis</i> L. - - - - -	6	298
<i>Ludius percipennis</i> Kby. - - - - -	5	199
<i>Lycophotia margaritosa</i> Haw., var. <i>saucia</i> Hbn. -	3	84
	4	138, 139
	5	204
	6	262
	8	356
	10	440
<i>Lyctus planicollis</i> Lec. - - - - -	3	127
<i>Lyctus</i> sp. - - - - -	2	75
	5	254
<i>Lygidea mendax</i> Reut. - - - - -	4	154
	5	219
	6	278
<i>Lygus elisus</i> Van D. - - - - -	3	368
<i>Lygus pratensis</i> L. - - - - -	3	97
	4	134, 142
<i>Lynchia maura</i> Bigot - - - - -	2	72
<i>Macrobasis unicolor</i> Kby. - - - - -	6	287
<i>Macrocentrus ancylivora</i> Rohw. - - - - -	5	221
	9	414
<i>Macroductylus subspinosus</i> Fab. - - - - -	3	105
	4	163
	5	197, 207
	6	259, 264
<i>Macronoctua onusta</i> Grote - - - - -	4	183
	5	250-251
	6	311
<i>Macrosiphoniella sanborni</i> Gill. - - - - -	2	70
<i>Macrosiphum granarium</i> Kby. - - - - -	6	271
<i>Macrosiphum</i> sp. - - - - -	1	29
<i>Malacosoma americana</i> Fab. - - - - -	1	14
	2	43-44, 50-51
	3	95
	4	134, 152
	3	370-371
	10	447
<i>Malacosoma diastria</i> Hbn. - - - - -	1	32
	2	65
	3	95-96
	5	193, 241
<i>Malacosoma pluvialis</i> Dyar - - - - -	3	96
<i>Malacosoma</i> sp. - - - - -	2	67
	3	96
	4	134

Marmara elotella Busck - - - - -	3	96-97
	4	153
Melanchroia chophise Gram. - - - - -	4	137
Melanoplus atlanis Riley - - - - -	5	202
	6	261
Melanoplus bivittatus Say - - - - -	6	261
	8	355
	10	438
Melanoplus differentialis Thos. - - - - -	4	136
	5	201
	6	261
	7	319
	8	355
Melanoplus femur-rubrum DeG. - - - - -	4	136
	5	202
	6	261
	8	355
	10	438
Melanoplus mexicanus atlanis Riley - - - - -	10	438
Melanoplus mexicanus Sauss. - - - - -	7	319
Melanoplus mexicanus mexicanus Sauss. - - - - -	8	355
Melanoplus scudderi Uhl. - - - - -	5	201
Melanoplus spp. - - - - -	6	261
Melanotus cribulosus Lec. - - - - -	5	205
Melanotus fissilis Say - - - - -	3	86
Melanotus sp. - - - - -	4	140
Melittia satyriniformis Hbn. - - - - -	6	296
	7	338
	9	425
Meloidae - - - - -	4	170-171
	6	287
	7	318, 333
	8	379
	9	450
Melophagus ovinus L. - - - - -	4	191
Merodon equestris Fab. - - - - -	3	30, 122
	9	433
Meromyza americana Fitch - - - - -	6	260-269
Meromyza flavipalpis Malloch - - - - -	5	203
Meromyza nigriventris Macq. - - - - -	5	203
Meromyza spp. - - - - -	5	203
Mesogramma polita Say - - - - -	5	213
Metrioma bicolor Fab. - - - - -	6	297
Metrioma bivittata Say - - - - -	6	297
Microbracon xanthonotus Ashm. - - - - -	2	65
Microthrips piercei Morg. - - - - -	3	363
Mindarus abietinus Koch - - - - -	5	243
Mineola indigenella Zell. - - - - -	1	14
Mineola scitulella Hulst. - - - - -	2	56
Mineus strigipes H. S. - - - - -	5	236
Mollusca - - - - -	1	30
	2	62, 69-70

Monarthropalpus buxi Labou - - - - -	4	133
Monellia caryae Monell - - - - -	6	235
Monellia caryella Fitch - - - - -	4	167
	5	227
Monellia costalis Fab. - - - - -	3	103
	4	167
	5	227
	6	235
Monellia nigropunctata Gran. - - - - -	3	103
	4	167
Monellia spp. - - - - -	4	167
Monocrepidius vespertinus Fab. - - - - -	5	205
	7	320
	10	439
Monomorium pharaonis L. - - - - -	4	192
Monoxia puncticollis Say - - - - -	2	65
	4	131
Murgantia histrionica Hahn - - - - -	2	62
	3	112
	4	174
	5	232
	6	253, 291
	7	335
	8	332, 333
	9	422-423
	10	456
Musca domestica L. - - - - -	3	123
Muscinae - - - - -	4	135
Mycetophilidae - - - - -	4	187
Mylabris obtectus Say - - - - -	2	74
	3	123
Mylabris pisorum L. - - - - -	1	40
	3	82, 128
Myochrous denticollis Lec. - - - - -	4	132, 146
	5	213
	10	446
Myzaphis rosarum Walk. - - - - -	2	71
Myzocallis fumipennellus Fitch - - - - -	1	20
	3	107-108
	4	167
	5	227
	6	285
	8	376
	9	417
Myzocallis kahawaluokalani Kirk. - - - - -	5	250
	6	311
	9	432
Myzus cerasi Fab. - - - - -	3	104
	4	161-162
	5	224

Myzus persicae Sulz. - - - - -	1	28
	2	61
	4	161, 170
	5	223
	9	423
Myzus ribis L. - - - - -	3	105
	4	164
	5	226
Nabis perus L. - - - - -	8	367
Nematus erichsonii Hartig - - - - -	7	342
Neoborus illitus Van D. - - - - -	4	133
Neodiprion abietis Harr. - - - - -	3	83
	7	342
	8	390
Neodiprion lecontei Fitch - - - - -	7	344
Neodiprion sp. - - - - -	8	339
Nepticula sericopeza Zell. - - - - -	4	184
	5	246
	7	343
Neuria procincta Grote - - - - -	3	85
	5	204
Nezara viridula L. - - - - -	1	26
	9	400, 418
Nitidulidae - - - - -	1	24
Noctuidae - - - - -	1	10
	2	43, 46-47
	3	79, 81, 84-85
	4	131, 137-139
	5	197, 199, 202-204
	6	259, 262-263
	7	320
	8	351, 353, 356
	9	403
	10	440
Notonota puncticollis Say - - - - -	6	272
Novius cardinalis Muls.		
See Rodolia cardinalis Muls.		
Nygma phaeorrhoea Don. - - - - -	3	83
	5	242
	7	341
	10	460
Nysius ericae Schill. - - - - -	2	47
	4	171
	5	199, 207
	6	289
	8	325
	9	420
Oberea bimaculata Oliv. - - - - -	6	359, 383
Ochrosidia immaculata Oliv. - - - - -	9	402
Ocnerostoma pinariella Zell. - - - - -	1	55
	6	507

<i>Oecanthus niveus</i> DeG. - - - - -	4	163
	6	283
<i>Oecanthus</i> sp. - - - - -	3	105
<i>Oligia fractilinea</i> Grote - - - - -	5	211
<i>Olla abdominalis</i> Say form. <i>plagiata</i> C&G. - -	6	308
<i>Omiodes accepta</i> Butl. - - - - -	10	466
<i>Omiodes blackburni</i> Butl. - - - - -	10	466
<i>Oncideres cingulatus</i> Say - - - - -	1	20
	2	57
	9	400, 417
<i>Oniscidae</i> - - - - -	3	110
<i>Ophryastes ovipennis</i> Sharp - - - - -	4	173
<i>Opius fletcheri</i> Silv. - - - - -	10	464
<i>Opsicoetus personatus</i> L. See <i>Reduvius personatus</i> L.		
<i>Orchestes pallicornis</i> Say - - - - -	4	354
	5	219
<i>Orthezia insignis</i> Doug. - - - - -	9	432
<i>Oxya chinensis</i> Thunb. - - - - -	1	25, 31
	10	467
<i>Oxyptilus periscelidactylus</i> Fitch - - - - -	4	163
	5	225
<i>Pachylobius picivorus</i> Germ. - - - - -	3	118
<i>Pachymerus gleditsiae</i> L. - - - - -	2	44, 75
<i>Pachypsylla celtidis-mamma</i> Riley - - - - -	6	304
	9	428
<i>Palaearcta vernata</i> Peck - - - - -	1	14
	2	51
	3	96
	4	183
	5	198, 217-218, 240
<i>Pangaeus uhleri</i> Sign. - - - - -	9	401, 426
	10	463
<i>Pantomorus fulleri</i> Horn - - - - -	5	225
<i>Papaipema nebris nitela</i> Guen. - - - - -	4	144-145
	5	210-211
	6	258, 273
	8	366
<i>Papilio cresphontes</i> Cram. - - - - -	9	418
<i>Papilio thoas</i> L. - - - - -	4	169
<i>Paracotalpa grandicollis</i> Hald. - - - - -	3	87
<i>Paratetranychus citri</i> McG. - - - - -	1	22
	2	58
	5	228
	8	378
<i>Paratetranychus pilosus</i> Can. & Fann. - - - -	1	7, 15
	2	44, 51-52
	3	83, 97
	4	134, 155
	3	353, 371
	9	413
	10	449-450

Paratetranychus pilosus var. occidentalis McG.	2	52
Paratetranychus uniusquis Jacobi - - - - -	5	242
	6	301
	7	344
Paratrechina longicornis Latr. - - - - -	6	314
	8	394
Paratrioza cockerelli Sulc. - - - - -	5	231-232
	6	289-290
Paria canella Fab. - - - - -	4	176
	9	423
Parlatoria blanchardi Tang. - - - - -	10	451
Parlatoria pergandii Comst. - - - - -	1	36
Pectinophora gossypiella Saund. - - - - -	10	457-458
Periphyllus lyropictus Kess. - - - - -	5	246
	6	305
Periphyllus negundinis Thos. - - - - -	4	183
	5	122, 245-244
	6	301-302
Perkinsiella saccharicida Kirk. - - - - -	1	31
	10	465
Phalacrus politus Melsh. - - - - -	6	271
Pheidole anastasis Emery - - - - -	2	74
Pheidole dentata Mayr - - - - -	1	39-40
Pheletes agonus Say - - - - -	5	204
	3	358
Phenacoccus gossypii Towns. & Chll. - - - - -	9	432
Phloeosinus cristatus Lec. - - - - -	10	462
Phloeosinus cupressi Hopk. - - - - -	10	462
Phlyctaenia ferrugalis Hon.		
See Phlyctaenia rubigalis Guen.		
Phlyctaenia rubigalis Guen. - - - - -	1	37
Phthorimaea lycopersicella Busck - - - - -	1	28
Phthorimaea operculella Zell. - - - - -	8	381
	9	400, 420-421
	10	454
Phyllocoptes oleivorus Ashm. - - - - -	1	21
	6	286
	7	312, 322
	9	419
Phyllocoptes quadripes Slim. - - - - -	7	343
Phyllocoptes sp. - - - - -	4	189
Phyllophaga arizansana Schaeff. - - - - -	3	87
Phyllophaga calceata Lec. - - - - -	2	46
	4	141
Phyllophaga crassissima Blanch. - - - - -	4	141
Phyllophaga crinita Burm. - - - - -	4	141
Phyllophaga fosteri Burm. - - - - -	3	87
Phyllophaga hirticula Knoch - - - - -	3	87
	4	140
Phyllophaga inversa Horn - - - - -	4	140
Phyllophaga luctuosa Horn - - - - -	3	87
Phyllophaga micans Knoch - - - - -	3	87

Phyllophaga praetermissa Horn - - - - -	3	87
	4	141
Phyllophaga rugosa Melsh. - - - - -	3	87
Phyllophaga spp. - - - - -	1	9
	2	43, 45-46
	3	79, 86-87
	4	140-142
	5	197, 200, 206-207
	6	257, 263-264
	7	320-321
	8	351, 353, 358-359
	9	404
	10	439
Phyllophaga submucida Lec. - - - - -	4	141
Phyllophaga torta Lec. - - - - -	4	141
Phyllophaga tristis Fab. - - - - -	3	87
	4	141
Phyllophaga ulkei Sm. - - - - -	3	87
Phyllotoma nemorata Fallen - - - - -	5	243
	6	301
	7	341
	8	388
Phyllotreta armoraciae Koch - - - - -	4	170
Phyllotreta vittata Fab. - - - - -	3	110
	5	230
	8	379
Phylloxera caryaecaulis Fitch - - - - -	4	168
	5	245
Phylloxera devastatrix Perg. - - - - -	4	168
Phylloxera notabilis Perg. - - - - -	4	168
Phylloxera spp. - - - - -	4	168
Phylloxera vitifoliae Fitch - - - - -	4	132, 164
Phymatodes variabilis L. - - - - -	5	254
Phytonomus nigrirostris Fab. - - - - -	5	214
Phytonomus posticus Gyll. - - - - -	2	43, 48
	3	89
	4	146-147
	6	258, 275
	7	326
	10	445-446
Phytophaga destructor Say - - - - -	1	10-11
	2	43, 47
	3	79, 88
	4	131, 142-143
	5	197, 208
	6	257, 265-268
	7	317, 322
	8	351, 359-363
	9	399, 405
	10	443-445
Phytophaga ulmi Bout. - - - - -	5	244

<i>Pieris protodice</i> B. & L. - - - - -	6	290
	8	381
<i>Pieris rapae</i> L. - - - - -	1	26
	2	62
	3	111
	4	174
	6	290
	7	334
	8	352, 381
	9	421
	10	454
<i>Pissodes deodarae</i> Hopk. - - - - -	1	33
	2	66-67
	3	80, 121
	5	250
<i>Pissodes nemorensis</i> Germ. - - - - -	3	119
<i>Pissodes</i> sp. - - - - -	9	432
<i>Pissodes strobi</i> Peck - - - - -	1	33
	3	121
	4	185
	6	307
	7	344
	9	429
<i>Plastophora</i> spp. - - - - -	5	254
<i>Platypedia putnami</i> Uhl. - - - - -	5	223
<i>Platypus compositus</i> Say - - - - -	8	395
<i>Plectrodera scalator</i> Fab. - - - - -	6	309
<i>Plusia chalcites</i> Esp. - - - - -	10	466
<i>Plutella maculipennis</i> Curt. - - - - -	2	62
	4	174
	6	290
	8	353, 382
	9	422
<i>Podosesia fraxini</i> Lugger - - - - -	2	44, 66
	5	243
<i>Podosesia syringae</i> Harr. - - - - -	9	433
<i>Polistes pallipes</i> L. - - - - -	4	193
<i>Polychrosis viteana</i> Clem. - - - - -	5	225
	6	283
	8	376
<i>Pomphopoea sayi</i> Lec. - - - - -	5	235
	6	275
<i>Popillia japonica</i> Newm. - - - - -	1	9
	3	87
	4	142
	8	371
	10	443

Porosagrotis orthogonia Morr. - - - - -	2	43, 46, 47
	3	85
	4	131, 138
	5	199, 203
	6	257, 259, 263
	7	317, 320
	8	352
	10	440
Porthetria dispar L. - - - - -	3	83, 117
	4	182
	5	241
	6	300
	7	318, 341
	10	459-460
Prenolepis imparis Say - - - - -	4	192
Prenolepis imparis testacea Emery - - - - -	1	39
Prenolepis (Nylanderia) parvula Mayr - - - - -	1	40
Prionoxystus robiniae Peck - - - - -	3	119
Prionus californicus Mots. - - - - -	1	21
	6	282
Prionus fissicornis Hald. - - - - -	8	366
Prociphilus erigeronensis Thos. - - - - -	9	430
Prociphilus fraxinifolii Thos. - - - - -	6	301
Prociphilus imbricator Fitch - - - - -	6	301
Prociphilus tessellatus Fitch - - - - -	5	247
	6	305
Prodenia praefica Grote - - - - -	6	263
	8	356
Proteopteryx bolliana Sling. - - - - -	2	57
	3	106
	4	165
Protoparce quinquemaculata Haw. - - - - -	5	232
	6	299
	8	380
Protoparce sexta Johan. - - - - -	5	239
	6	288, 299
	7	334
	8	380
Protoparce spp. - - - - -	4	181
	6	299
	7	318, 339
	8	353
	9	420
Pseudococcus brevipes Ckll. - - - - -	1	24
Pseudococcus citri Risso - - - - -	1	23, 36
	2	58, 69
	6	286
	9	431
Pseudococcus comstocki Kuw. - - - - -	8	389
Pseudococcus gahani Green - - - - -	2	58
	4	132, 169
	10	452

Pseudococcus kraunhiae Kuw. - - - - -	4	190
	6	310
Pseudococcus sp. - - - - -	4	190
Pseudohazis eglanterina Boisd. - - - - -	3	105
Psila rosae Fab. - - - - -	1	8, 29-30
	4	180
Psilocorsis faginella Chamb. - - - - -	8	388
Psocidae - - - - -	2	74
Psyllia mali Schmid. - - - - -	4	134
Psyllia pyricola Foerst. - - - - -	1	17
	3	99
	4	156
	5	223
	6	282
Psylliodes punctulata Melsh. - - - - -	3	116
Pteronidea ribesii Scop. - - - - -	3	105
	4	164
	5	226
	8	353
Ptinus fur L. - - - - -	3	128
	5	254
Pulvinaria vitis L. - - - - -	4	184
	5	247
	6	303, 305
Pyrausta nubilalis Hbn. - - - - -	3	81 - 82
	4	134
	8	353
	10	437, 441-442
Pyroderces rileyi Wals. - - - - -	1	23
Recurvaria piceaella Kearf. - - - - -	9	430
Reduvius personatus L. - - - - -	7	346
Reticulitermes flavipes Kollar - - - - -	2	73
	6	313
Reticulitermes tibialis Banks - - - - -	3	125
	5	253
	7	347
Reticulitermes spp. - - - - -	1	38
	2	44, 73
	3	125
	4	191
	5	253
	6	313
	7	347
	9	434
Rhabdocnemis obscura Boisd. - - - - -	1	31
	10	465
Rhabdophaga cornuta Walsh - - - - -	6	309
Rhabdopterus picipes Oliv. - - - - -	6	283
	9	415

<i>Rhagoletis cingulata</i> Loew	- - - - -	5	224
		6	282
		8	375
<i>Rhagoletis fausta</i> O. S.	- - - - -	5	224
<i>Rhagoletis juglandis</i> Cress.	- - - - -	6	284
		9	400, 418
<i>Rhagoletis pomonella</i> Walsh	- - - - -	2	44, 51
		5	218
		6	279
		8	371
		9	413
		10	447
<i>Rhagoletis</i> spp.	- - - - -	5	224
<i>Rhizoglyphus hyacinthi</i> Boisd.	- - - - -	4	189
		9	433
<i>Rhopalosiphum prunifoliae</i> Fitch	- - - - -	1	7, 13
		2	49
		3	92, 94
		9	405
		10	450
<i>Rhopalosiphum pseudobrassicae</i> Davis	- - - - -	1	8, 29
		2	64
		3	80, 112, 116
		5	237
		7	338
		8	382
		9	426
		10	455
<i>Rhyacionia buoliana</i> Schiff.	- - - - -	3	119
		4	185
		5	199, 248
		6	307
<i>Rhyacionia frustana</i> Comst.	- - - - -	5	248
<i>Rhynchites bicolor</i> Fab.	- - - - -	5	251
<i>Rodolia cardinalis</i> Muls.	- - - - -	2	59
		5	228
<i>Romalea microptera</i> Beauv.	- - - - -	4	136
		7	319
<i>Saissetia hemisphaerica</i> Targ.	- - - - -	9	432
<i>Saissetia nigra</i> Nietn.	- - - - -	3	120
<i>Saissetia oleae</i> Bern.	- - - - -	1	22
		6	286
<i>Sanbornia juniperi</i> Perg.	- - - - -	6	304
<i>Sannina uroceriformis</i> Walk.	- - - - -	3	106
		4	165
<i>Saperda calcarata</i> Say	- - - - -	6	307
		9	427-428
<i>Saperda candida</i> Fab.	- - - - -	4	154
<i>Saperda populnea</i> L.	- - - - -	6	307
<i>Saperda tridentata</i> Oliv.	- - - - -	3	118
		6	303

Scapteriscus acletus R. & H. - - - - -	2	60
	4	172
Scapteriscus sp. - - - - -	1	26
	2	44
	4	171-172
	5	230
Scapteriscus vicinus Scudd. - - - - -	2	66
	5	230
Schistocerca americana Drury - - - - -	2	45
	5	201
Schizocerophaga leibyi Twn. - - - - -	6	298
Schizoneura rileyi Thos. - - - - -	5	244
Sciara molokaiensis Grimshaw - - - - -	1	24
Sciara sp. - - - - -	1	36
	6	298-299
Scirtothrips citri Moul. - - - - -	2	58
	8	378
Scolia manilae Ashm. - - - - -	10	465
Scolytoides - - - - -	6	306
	8	354
Scolytus rugulosus Ratz. - - - - -	2	68
	3	103
	4	161
	7	329
	8	371
	9	415, 416
Scutigerella immaculata Newp. - - - - -	1	25
	2	65
	5	260
Scythropus sp. - - - - -	3	119
Sesia pictipes G. & R. - - - - -	3	100
	4	156
	9	414
Simuliidae - - - - -	3	124
	6	260
Siphonaptera - - - - -	3	124
	4	191
Sitodrepa panicea L. - - - - -	3	128
Sminthurus hortensis Fitch - - - - -	4	181
Solenobia walshella Clem. - - - - -	5	246
Solenopsis geminata Fab. - - - - -	1	39
	3	126
	5	254
Solenopsis geminata var. rufa Fab. - - - - -	5	254
Solenopsis globularia var. mobilensis Smith -	5	254
Solenopsis molesta Say - - - - -	5	254
Sphenophorus aequalis Gyll. - - - - -	6	274
Sphenophorus callosus Oliv. - - - - -	5	213
Sphenophorus destructor Chitt. - - - - -	4	146
	5	213
Sphenophorus melanocephalus Fab. - - - - -	6	274

Sphenophorus spp. - - - - -	4	146
	5	198, 213
	6	274
Spilonota ocellana Schiff. - - - - -	3	82, 96
	4	134, 153
	5	218
	6	278
Spodoptera mauritia Boisd. - - - - -	1	10
Sterictiphora collaris Say - - - - -	6	298
	7	338
Sterictiphora lineata Rohw. - - - - -	1	30
Stictocephala festina Say - - - - -	5	235
Stigmacus floridanus Bks. - - - - -	1	24
Stilpnotia salicis L. - - - - -	1	33
	3	83, 117
	4	182
	5	241-242
	6	260, 300
	7	341
	8	354, 388
	10	460
Stomoxys calcitrans L. - - - - -	6	312-313
	8	393
Strigoderma arboricola Fab. - - - - -	6	294
Strumigenys pulchella Emery - - - - -	3	126
Synanthedon pyri Harr. - - - - -	1	17-18
Synanthedon tipuliformis L. - - - - -	4	164
Syneta albida Lec. - - - - -	3	97
Syntomeida epilais Walk. - - - - -	9	413
Syntomeida epilais Walk. - - - - -	1	37
Syrphus opinator O. S. - - - - -	6	269
Systema pallicornis Schiff. - - - - -	4	146
Tabanidae - - - - -	4	191
	6	312
Tachypterellus quadrigibbus Say - - - - -	3	82
	6	259, 279
	7	328
Taeniothrips inconsequens Uzel - - - - -	3	100, 104
	4	156
Taniva albolineana Kearf. - - - - -	8	390
Tapinoma sessile Say - - - - -	5	254
Tarsonemus ananas Tryon - - - - -	1	24
Tarsonemus pallidus Banks - - - - -	1	36
	9	423
	10	462
Tegrodera erosa Lec. - - - - -	4	170
Tenebroides mauritanicus L. - - - - -	2	75
	3	128
	9	434
Tetanops aldrichi Hendel - - - - -	6	298
Tetraleurodes mori Quaint. - - - - -	5	250
	7	345

Tetramorium guineense Fab. - - - - -	8	394
Tetramorium striatidens Emery - - - - -	3	394
Tetranychus sexmaculatus Riley - - - - -	2	33
	5	223
Tetranychus sp. - - - - -	2	63
	4	176
Tetranychus telarius L. - - - - -	1	35
	2	69
	3	114, 120
	5	207-208
	6	257, 264-265
	7	317, 321
	3	353, 375
	9	405
Thecodiplosis liriodendri O. S. - - - - -	7	341
Thermobia domestica Pack. - - - - -	3	127
	5	254
	7	342
Theronia fulvescens Cress. - - - - -	2	65
Thrips panicus Moul. - - - - -	1	31-32
Thrips saccharoni Moul. - - - - -	1	32
Thrips tabaci L. - - - - -	5	257
	6	253, 296-297
	10	456
Thyridopteryx ephemeraeformis Haw. - - - - -	1	32
	2	65
	3	117
	4	132
	5	241
	6	300
	7	340
	3	337
Thysanoptera - - - - -	1	31-32
	5	223, 251
	3	353
Thysanus fax Gir. - - - - -	4	169
Thysanus maculatus Gir. - - - - -	4	169
Tibicen cinctifera Uhler - - - - -	3	253, 310
Tibicen davisi St. & Grsb. - - - - -	3	336
	10	463-464
Tibicina septendecim L. - - - - -	3	117
	5	240
	10	453-459
Tinea pellionella L. - - - - -	3	127
Tineola biselliella Hrn. - - - - -	3	127
	4	137
Tipulidae - - - - -	3	79, 91, 121
Tomostethus bardus Say - - - - -	4	133
Tortrix citrana Fern. - - - - -	3	120
	5	222
Tortrix cockerellana Kearf. - - - - -	3	401, 431

<i>Toumeyella liriodendri</i> Gmel. - - - - -	6	308
<i>Toumeyella numismaticum</i> P. & McD. - - - - -	5	249
	9	430
	10	462
<i>Toxoptera aurantiae</i> Koch - - - - -	8	391
<i>Toxoptera graminum</i> Rond. - - - - -	2	43, 47
	5	214
	6	258, 269-271
	7	322-323
	10	445
<i>Trialeurodes vaporariorum</i> Westw. - - - - -	4	187
	6	310
<i>Triatoma sanguisuga</i> Lec. - - - - -	6	312
<i>Trichobaris trinotata</i> Say - - - - -	6	288
	7	333
<i>Trichogramma japonicum</i> Ashm. - - - - -	10	466
<i>Trichogramma minutum</i> Riley - - - - -	5	240
	6	300
	9	414
	10	443
<i>Trichopoda pennipes</i> Fab. - - - - -	9	400, 418
<i>Trionymus sacchari</i> Ckll. - - - - -	1	32
<i>Trioza alacris</i> Flor. - - - - -	8	391
<i>Trioza diospyri</i> Ashm. - - - - -	6	284
<i>Triphleps</i> sp. - - - - -	1	24
<i>Trirhabda brevicollis</i> Lec. - - - - -	5	227
<i>Trombicula irritans</i> Riley - - - - -	4	191
<i>Tychius picirostris</i> Fab. - - - - -	1	12
<i>Tyloderma morbillosa</i> Lec. - - - - -	1	27
	3	80, 113
	4	133, 175-176
<i>Typhlocyba pomaria</i> McAtee - DeLong det. - - -	5	219
	9	411
<i>Typhlocyba</i> sp. - - - - -	9	412
<i>Tyroglyphidae</i> - - - - -	4	193
<i>Tyroglyphus lintneri</i> Osb. - - - - -	6	299
	9	434
<i>Urographis triangulifera</i> Hald. - - - - -	6	304
<i>Vedalia cardinalis</i> Muls.		
See <i>Rodolia cardinalis</i> Muls.		
<i>Xanthopastis timais</i> Cram. - - - - -	5	251
<i>Xyleborus pecanis</i> Hopk. - - - - -	3	107
<i>Xylobiops basilaris</i> Say - - - - -	8	377
<i>Zophodia grossulariae</i> Riley - - - - -	2	56
	3	105

We wish particularly to urge upon our collaborators the use of the common names accepted by the American Association of Economic Entomologists. These should be considered as official names by all American economic entomologists. These approved common names are indicated by the letters a. n. o. (american nomina officinale).

Abbot's sawfly	<i>Diprion abbotii</i> Leach
Alfalfa caterpillar a.n.o.	<i>Euryanus curvithame</i> Boisd.
Alfalfa weevil a.n.o.	<i>Phytonomus posticus</i> Gyll.
American dog tick a.n.o.	<i>Dermacentor variabilis</i> Say
Apple aphid a.n.o.	<i>Aphis pomi</i> DeG.
Apple curculio a.n.o.	<i>Tachypterellus quadrigibbus</i> Say
Apple flea weevil a.n.o.	<i>Orchestes pallicornis</i> Say
Apple grain aphid a.n.o.	<i>Rhopalosiphum prunifoliae</i> Fitch
Apple maggot a.n.o.	<i>Rhagoletis pomonella</i> Walsh
Apple redbug a.n.o.	<i>Lygidea mendax</i> Reut.
Apple seed chalcid a.n.o.	<i>Syntomaspis druparum</i> Boh.
Apple sucker a.n.o.	<i>Psylla mali</i> Schmid.
Apple twig borer a.n.o.	<i>Amphicerus bicaudatus</i> Say
Apple twig miner	<i>Marmara elotella</i> Busck
Arborvitae leaf miner a.n.o.	<i>Argyresthia timiella</i> Pack.
Argentine ant a.n.o.	<i>Iridomyrmex humilis</i> Mayr
Army cutworm a.n.o.	<i>Chorizagrotis auxiliaris</i> Grote
Armyworm a.n.o.	<i>Cirphis unipuncta</i> Haw.
Ash aphid	<i>Prociphilus fraxinifolii</i> Thos.
Ash borer	<i>Podosesia fraxini</i> Lugger
Ash flower gall	<i>Eriophyes fraxiniflora</i> Felt
Ash leaf bug	<i>Neoborus illitus</i> Van D.
Ash sawfly	<i>Tomostethus bardus</i> Say
Asiatic beetle a.n.o.	<i>Anomala orientalis</i> Waterh.
Asiatic garden beetle	<i>Aserica castanea</i> Arrow
Asparagus beetle a.n.o.	<i>Crioceris asparagi</i> L.
Bagworm a.n.o.	<i>Thyridopteryx ephemeraeformis</i> Haw.
Banded cucumber beetle a.n.o.	<i>Diabrotica balteata</i> Lec.
Bean aphid	<i>Aphis rumicis</i> L.
Bean leaf beetle a.n.o.	<i>Cerotoma trifurcata</i> Forst.
Bean leaf roller a.n.o.	<i>Goniurus proteus</i> L.
Bean thrips	<i>Heliothrips fasciatus</i> Perg.
Bean weevil a.n.o.	<i>Mylabris obtectus</i> Say
Bedbug a.n.o.	<i>Cimex lectularius</i> L.
Beet leaf beetle a.n.o.	<i>Monoria puncticollis</i> Say
Beet leafhopper a.n.o.	<i>Eutettix tenellus</i> Baker
Beet webworm a.n.o.	<i>Loxostege sticticalis</i> L.
Bertha armyworm a.n.o.	<i>Berthra configurata</i> Walk.
Birch case bearer	<i>Coleophora salmani</i> Hein.
Birch leaf miner	<i>Fennia pumila</i> Klug
Birch leaf-mining sawfly	<i>Phyllotoma nemorata</i> Fallen
Birch skeletonizer a.n.o.	<i>Bruculatrix canadensisella</i> Chamb.
Black cherry aphid a.n.o.	<i>Myzus cerasi</i> Fab.
Black citrus aphid	<i>Toxoptera aurantiae</i> Koch
Black pecan aphid	<i>Myzocallis fumipennellus</i> Fitch

Black scale a.n.o.	<i>Saissetia oleae</i> Bern.
Black vine weevil	<i>Brachyrhinus sulcatus</i> Fab.
Black widow	<i>Lithrodectes mactans</i> Fab.
Blood-sucking conenose a.n.o.	<i>Triatoma sanguisuga</i> Lec.
Boxelder aphid a.n.o.	<i>Periphyllus negundinis</i> Thomas
Boxelder bug a.n.o.	<i>Leptocoris trivittatus</i> Say
Boxwood leaf miner a.n.o.	<i>Monarthropalpus buxi</i> Labou
Bristly rose slug a.n.o.	<i>Cladius isomerus</i> Nort.
Bronze birch borer a.n.o.	<i>Agrilus anxius</i> Gory
Brown day moth	<i>Pseudohazis eglanterina</i> Boisd.
Buffalo treehopper a.n.o.	<i>Ceresa bubalus</i> Fab.
Bulb mite a.n.o.	<i>Rhizoglyphus hyacinthi</i> Boisd.
Cabbage aphid a.n.o.	<i>Brevicoryne brassicae</i> L.
Cabbage curculio a.n.o.	<i>Ceutorhynchus rapae</i> Gyll.
Cabbage looper a.n.o.	<i>Autographa brassicae</i> Riley
Cabbage maggot a.n.o.	<i>Hylenia brassicae</i> Bouche
Cabbage webworm a.n.o.	<i>Hellula undalis</i> Fab.
Cadelle a.n.o.	<i>Tenebroides mauritanicus</i> L.
California Prionus	<i>Prionus californicus</i> Mots.
California red scale a.n.o.	<i>Chrysomphalus aurantii</i> Mask.
Camphor thrips a.n.o.	<i>Cryptothrips floridensis</i> Watson
Carpenter worm a.n.o.	<i>Prionoxystus robiniae</i> Peck
Carpet beetle a.n.o.	<i>Anthrenus scrophulariae</i> L.
Carrot rust fly a.n.o.	<i>Psila rosae</i> Fab.
Carrot weevil	<i>Listronotus latiusculus</i> Boh.
Case-bearing clothes moth a.n.o.	<i>Tinea pellionella</i> L.
Cat flea a.n.o.	<i>Ctenocephalus felis</i> Bouche
Chaff scale a.n.c.	<i>Parlatoria pergandii</i> Comst.
Changa a.n.o.	<i>Scapteriscus vicinus</i> Scud.
Cherry case bearer	<i>Coleophora pruniella</i> Clemens
Cherry fruit fly a.n.o.	<i>Rhagoletis cingulata</i> Loew
Chicken mite a.n.o.	<i>Dermanyssus gallinae</i> L.
Chigger a.n.o.	<i>Trombicula irritans</i> Riley
Chinch bug a.n.o.	<i>Blissus leucopterus</i> Say
Chrysanthemum aphid a.n.o.	<i>Macrosiphoniella sanborni</i> Gill.
Chrysanthemum gall midge a.n.o.	<i>Diarthronomyia hypogaea</i> Loew
Chrysanthemum lacebug	<i>Corythucha marmorata</i> Uhl.
Cigar case bearer a.n.o.	<i>Coleophora fletcherella</i> Fern.
Cigarette beetle a.n.o.	<i>Lasioderma serricorne</i> Fab.
Citrophilus mealbug a.n.o.	<i>Pseudococcus gahani</i> Green
Citrus aphid	<i>Aphis spiraeicola</i> Patch
Citrus mealbug a.n.o.	<i>Pseudococcus citri</i> Risso
Citrus rust mite a.n.o.	<i>Phylloxera oleivorus</i> Ashm.
Citrus whitefly a.n.o.	<i>Dialeurodes citri</i> Ashm.
Cloudy-winged whitefly a.n.o.	<i>Dialeurodes citrifolii</i> Morg.
Clover hay worm a.n.o.	<i>Hysopygia costalis</i> Fab.
Clover head weevil	<i>Tychius picirostris</i> Fab.
Clover leaf weevil a.n.o.	<i>Hypera punctata</i> Fab.
Clover mite a.n.o.	<i>Bryobia praetiosa</i> Koch

Clover root borer a.n.o.	<i>Hylestinus obscurus</i> Marsh.
Clover seed chalcid a.n.o.	<i>Bruchophagus fovealis</i> Howard
Codling moth a.n.o.	<i>Carpocapsa pomonella</i> L.
Colorado corn root worm	<i>Diabrotica virgifera</i> Lec.
Colorado potato beetle a.n.o.	<i>Leptinotarsa decemlineata</i> Say
Corn ear worm a.n.o.	<i>Heliothis obsoleta</i> Fab.
Corn flea beetle	<i>Chaetocnema pulicaria</i> Melsh.
Corn root aphid a.n.o.	<i>Amuraphis maidi-radiciis</i> Forbes
Corn root worm a.n.o.	<i>Diabrotica longicornis</i> Say
Cotton leaf worm a.n.o.	<i>Alabama argillacea</i> Hbn.
Cottonwood borer	<i>Plectrodera scalator</i> Fab.
Cottonwood scale	<i>Chionaspis ortholobis</i> Comst.
Cottony-cushion scale a.n.o.	<i>Icerya purchasi</i> Mask.
Cottony maple scale a.n.o.	<i>Pulvinaria vitis</i> L.
Cowpea aphid a.n.o.	<i>Aphis medicaginis</i> Koch
Cowpea curculio a.n.o.	<i>Chalcodermus aeneus</i> Boh.
Cranberry root worm	<i>Rhabdopterus picipes</i> Oliv.
Crepe myrtle aphid	<i>Myzocallis hawaiiensis</i> Kirk.
Crown whitefly	<i>Aleurocanthus coronatus</i> Quaint.
Currant aphid a.n.o.	<i>Myzus ribis</i> L.
Currant borer a.n.o.	<i>Synanthedon tipuliformis</i> L.
Currant fruit fly a.n.o.	<i>Epochra canadensis</i> Loew
Cyclamen mite a.n.o.	<i>Tarsonemus pallidus</i> Banks
Cypress bark scale	<i>Ehrhornia cupressi</i> Ehrh.
Deodar weevil	<i>Pissodes deodora</i> Hopk.
Diamond-back moth a.n.o.	<i>Plutella maculipennis</i> Curt.
Dictyospermum scale	<i>Chrysomphalus dictyospermi</i> Morg.
Dog flea a.n.o.	<i>Ctenocephalus canis</i> Curt.
Douglas-fir caterpillar	<i>Euschausia argentata</i> Pack.
Douglas-fir tussock moth	<i>Hemerocampa pseudotsugata</i> McD.
Dried fruit beetle	<i>Carpophilus hemipterus</i> L.
Dusky leaf roller	<i>Amorbia humerosana</i> Clem.
Early strawberry slug	<i>Empria fragariae</i> Rohw.
Eastern spruce beetle a.n.o.	<i>Dendroctonus piceaperda</i> Hopk.
Eastern tent caterpillar a.n.o.	<i>Malacosoma americana</i> Fab.
Eggplant lacebug a.n.o.	<i>Gargaphia solani</i> Heid.
Elm borer a.n.o.	<i>Saperda tridentata</i> Oliv.
Elm cockscomb gall a.n.o.	<i>Colopha ulmicola</i> Fitch
Elm leaf beetle a.n.o.	<i>Galerucella xanthomelaena</i> Schrank
Elm scurfy scale a.n.o.	<i>Chionaspis americana</i> Johns.
Euonymus scale a.n.o.	<i>Chionaspis euonymi</i> Comst.
European corn borer a.n.o.	<i>Pyrausta nubilalis</i> Hbn.
European earwig a.n.o.	<i>Forficula auricularia</i> L.
European elm scale a.n.o.	<i>Gossyparia spuria</i> Mod.
European fruit lecanium	<i>Lecanium corni</i> Bouche
European pine shoot moth a.n.o.	<i>Rhyacionia buoliana</i> Schiff.
European red mite a.n.o.	<i>Paratetranychus pilosus</i> C. & F.
Eye-spotted budmoth a.n.o.	<i>Spilonota ocellana</i> Schiff.
Fall armyworm a.n.o.	<i>Lophygnathus frugiperda</i> S. & A.
Fall canker worm a.n.o.	<i>Alsophila pometaria</i> Harr.
Fall webworm a.n.o.	<i>Hyphantria cunea</i> Drury

False chinch bug a.n.o.	<i>Nysius ericae</i> Schill.
Fern scale a.n.o.	<i>Hemichionaspis aspidistreae</i> Sign.
Field cricket a.n.o.	<i>Gryllus assimilis</i> Fab.
Fire ant a.n.o.	<i>Solenopsis geminata</i> Fab.
Fire brat a.n.o.	<i>Thermobia domestica</i> Pack.
Flat-headed apple tree borer a.n.o. ...	<i>Chrysobothris femorata</i> Oliv.
Florida flower thrips	<i>Frankliniella tritici bispinosa</i> Morg.
Florida red scale a.n.o.	<i>Chrysomphalus ficus</i> Ashm.
Flower thrips a.n.o.	<i>Frankliniella tritici</i> Fitch
Forest tent caterpillar a.n.o.	<i>Malacosoma disstria</i> Hbn.
Four-marted ash borer	<i>Eburia quadrigeminata</i> Say
Fowl tick a.n.o.	<i>Argas miniatus</i> Koch
Fruit tree leaf beetle	<i>Syneta albida</i> Lec.
Fruit tree leaf roller a.n.o.	<i>Archips argyrospila</i> Walk.
Fuller's rose beetle a.n.o.	<i>Pantomorus fulleri</i> Horn
Garden flea hopper a.n.o.	<i>Halticus citri</i> Ashm.
Garden slug	<i>Agriolimax agrestis</i> L.
Garden springtail a.n.o.	<i>Smirthurus hortensis</i> Fitch
Garden webworm a.n.o.	<i>Loxostege similalis</i> Guen.
Giant aphid	<i>Longistigma caryae</i> Harr.
Gipsy moth a.n.o.	<i>Porthetria dispar</i> L.
Gloomy scale a.n.o.	<i>Chrysomphalus tenebricosus</i> Comst.
Golden oak scale	<i>Asterolecanium variolosum</i> Ratz.
Gooseberry fruit worm a.n.o.	<i>Zophodia grossulariae</i> Riley
Granary weevil a.n.o.	<i>Calendra granaria</i> L.
Grape berry moth a.n.o.	<i>Polychrosis viteana</i> Clem.
Grape colaspis a.n.o.	<i>Colaspis brunnea</i> Fab.
Grape flea beetle a.n.o.	<i>Haltica chalybea</i> Ill.
Grape leaf folder a.n.o.	<i>Desmia funeralis</i> Hbn.
Grape leafhopper a.n.o.	<i>Erythroneura comes</i> Say
Grape phylloxera a.n.o.	<i>Phylloxera vitifoliae</i> Fitch
Grape plume moth a.n.o.	<i>Oxyptilus periscelidactylus</i> Fitch
Grape root worm a.n.o.	<i>Fidia viticida</i> Walsh
Gray sugarcane mealybug	<i>Trionymus sacchari</i> Ckll.
Green bug a.n.o.	<i>Toxoptera graminum</i> Rond.
Green fruit worm a.n.o.	<i>Graptolitha antennata</i> Walk.
Greenhouse centipede	<i>Scutigeraella immaculata</i> Newp.
Greenhouse leaf tier a.n.o.	<i>Phlyctaenia rubigalis</i> Guen.
Greenhouse Orthozia	<i>Orthozia insignis</i> Doug.
Greenhouse sowbug	<i>Armadillidium vulgare</i> Latr.
Greenhouse thrips a.n.o.	<i>Heliothrips haemorrhoidalis</i> Bouche
Green June beetle a.n.o.	<i>Cotinis nitida</i> L.
Green peach aphid a.n.o.	<i>Myzus persicae</i> Sulz.
Green-striped maple worm a.n.o.	<i>Anisota rubicunda</i> Fab.
Hackberry nipple gall	<i>Pachypsylla celtidis-mamma</i> Riley
Harlequin bug a.n.o.	<i>Murgantia histrionica</i> Hahn
Hawaiian beet webworm	<i>Hymenia fascialis</i> Cram.
Hemispherical scale a.n.o.	<i>Saissetia hemisphaerica</i> Targ.
Hessian fly a.n.o.	<i>Phytophaga destructor</i> Say
Hickory phylloxera	<i>Phylloxera caryaecaulis</i> Fitch
Hickory shoot curculio	<i>Conotrachelus aratus</i> Germ.

Hickory shuck worm a.n.o.	<i>Laspeyresia caryana</i> Fitch
Hop flea beetle a.n.o.	<i>Psylliodes punctulata</i> Melsh.
Horn fly a.n.o.	<i>Haematobia irritans</i> L.
House cricket a.n.o.	<i>Grillus domesticus</i> L.
Imbricated snout beetle a.n.o.	<i>Epicnerus imbricatus</i> Say
Imported cabbage worm a.n.o.	<i>Pieris rapae</i> L.
Imported currant worm a.n.o.	<i>Pteronidea ribesi</i> Scop.
Ivy scale.	
See Oleander scale	
Japanese beetle a.n.o.	<i>Popillia japonica</i> Newm.
Japanese rose beetle	<i>Adoretus sinicus</i> Burn.
Juniper scale	<i>Diaspis caruoli</i> Targ.
Juniper webworm	<i>Dichomeris marginellus</i> Fab.
Larch case bearer a.n.o.	<i>Coleophora laricella</i> Hbn.
Larder beetle a.n.o.	<i>Dermetes lardarius</i> L.
Large black carpenter ant	<i>Camponotus herculeanus</i> L.
Larger canna leaf roller	<i>Calpodes ethlius</i> Cram.
Latania scale	<i>Aspidiotus lataniae</i> Sign.
Laurel psyllid	<i>Trioza alacris</i> Flor.
Leaf crumpler a.n.o.	<i>Mineola indigenella</i> Zell.
Leaf-footed bug a.n.o.	<i>Leptoglossus phyllopus</i> L.
Lesser bulb fly a.n.o.	<i>Eumerus strigatus</i> Fallen
Lesser clover leaf weevil a.n.o.	<i>Phytonomus nigrirostris</i> Fab.
Lesser corn stalk borer a.n.o.	<i>Elasmopalpus lignosellus</i> Zell.
Lesser peach borer a.n.o.	<i>Sesia pictipes</i> G. & R.
Lettuce bug	<i>Corizus hyalinus</i> Fab.
Lilac borer a.n.o.	<i>Podosesia syringae</i> Harr.
Linden leaf gall	<i>Eriopyx abnormis</i> Garm.
Lined corn borer	<i>Oligia fractilinea</i> Grote
Locust twig borer	<i>Ecdytolopha insiticiaria</i> Zell.
Long soft scale	<i>Coccus elongatus</i> Sign.
Maple bladder gall	<i>Phyllocoptes quadripes</i> Shim.
Maple leaf spot	<i>Cecidomyia ocellaris</i> O. S.
Maple nepticula	<i>Nepticula sericopeza</i> Zell.
Masked hunter a.n.o.	<i>Reduvius personatus</i> L.
Mealy plum aphid a.n.o.	<i>Hyalopterus arundinis</i> Fab.
Mediterranean flour moth a.n.o.	<i>Ephestia kuehniella</i> Zell.
Mediterranean fruit fly a.n.o.	<i>Ceratitis capitata</i> Wied.
Melon aphid a.n.o.	<i>Aphis gossypii</i> Glov.
Melon worm a.n.o.	<i>Diaphania hyalinate</i> L.
Mexican bean beetle a.n.o.	<i>Epilachna corrupta</i> Muls.
Mint flea beetle	<i>Longitarsus merthaphagus</i> Gentner
Mormon cricket a.n.o.	<i>Anabrus simplex</i> Hald.
Mountain pine beetle a.n.o.	<i>Dend. stepus monticolus</i> Mord.
Mourning-cloak butterfly a.n.o.	<i>Aglaia antiopa</i> L.
Mulberry whitefly a.n.o.	<i>Tetraneuraodes mori</i> Quaint.
Mushroom mite	<i>Troglyphus lintneri</i> Osb.
Nantucket pine moth	<i>Rhyacionia frustrana</i> Const.
Narcissus bulb fly a.n.o.	<i>Merodon equestris</i> Fab.
Northern cattle grub a.n.o.	<i>Hypoderma bovis</i> DeG.
Northern mole cricket a.n.o.	<i>Gryllobatpa hexadactyla</i> Perty

Norway maple aphid	<i>Periphyllus lyropictus</i> Kess.
Nose botfly a.n.o.	<i>Gastrophilus haemorrhoidalis</i> L.
Oak lecanium	<i>Lecanium quercifex</i> Fitch
Oak spanworm	<i>Ellopiia somnaria</i> Hlst.
Oak twig pruner	<i>Hypermallus villosus</i> Fab.
Oblique-banded leaf roller a.n.o.	<i>Cacoecia rosaceana</i> Harr.
Oblique-banded strawberry leaf roller .	<i>Cacoecia obsoletana</i> Walk.
Old house borer	<i>Hylotrupes bajulus</i> L.
Oleander aphid	<i>Aphis nerii</i> Fonsc.
Oleander scale	<i>Aspidiotus hederæ</i> Vall.
Onion maggot a.n.o.	<i>Hylemyia antiqua</i> Meig.
Onion thrips a.n.o.	<i>Thrips tabaci</i> L.
Orange dog a.n.o.	<i>Papilio thoas</i> L.
Orange thrips a.n.o.	<i>Scirtothrips citri</i> Moulton
Orange tortrix	<i>Tortrix citrana</i> Fern.
Oriental cockroach a.n.o.	<i>Blatta orientalis</i> L.
Oriental fruit moth a.n.o.	<i>Laspeyresia molesta</i> Busck
Oriental moth a.n.o.	<i>Cnidocampa flavescens</i> Walk.
Oyster-shell scale a.n.o.	<i>Lepidosaphes ulmi</i> L.
Pale western cutworm a.n.o.	<i>Porosagrotis orthogonia</i> Morr.
Parsley stalk weevil .	
See Carrot weevil	
Pea aphid a.n.o.	<i>Illinoia pisi</i> Kalt.
Pea moth a.n.o.	<i>Laspeyresia nigricana</i> Steph.
Pea weevil a.n.o.	<i>Mylabris pisorum</i> L.
Peach borer a.n.o.	<i>Aegeria exitiosa</i> Say
Peach twig borer a.n.o.	<i>Anarsia lineatella</i> Zell.
Pear borer	<i>Synanthedon pyri</i> Harr.
Pear leaf blister mite a.n.o.	<i>Eriophyes pyri</i> Pgst.
Pear midge a.n.o.	<i>Contarinia pyrivora</i> Riley
Pear psylla a.n.o.	<i>Psyllia pyricola</i> Foerst.
Pear slug a.n.o.	<i>Eriocampoides limacina</i> Retz.
Pecan budmoth	<i>Proteopteryx bolliana</i> Sling.
Pecan case bearer a.n.o.	<i>Acrobasis juglandis</i> LeB.
Pecan catocala	<i>Catocala viduata</i> Guen.
Pecan cigar case bearer	<i>Coleophora caryaefoliella</i> Clem.
Pecan cossid	<i>Cossula magnifica</i> Strecker
Pecan nut case bearer a.n.o.	<i>Acrobasis caryae</i> Grote
Pecan weevil a.n.o.	<i>Balaninus caryae</i> Horn
Periodical cicada a.n.o.	<i>Tibicina septendecim</i> L.
Persimmon borer	<i>Sannina uroceriformis</i> Walk.
Persimmon psylla a.n.o.	<i>Trioza diospyri</i> Ashm.
Pickle worm a.n.o.	<i>Diaphania nitidalis</i> Stoll
Pigeon hippoboscid	<i>Lynchia maura</i> Bigot
Pineapple mealybug	<i>Pseudococcus brevipes</i> Ckll.
Pine bark aphid	<i>Chermes pinicorticis</i> Fitch
Pine leaf scale	<i>Chionaspis pinifoliae</i> Fitch
Pistol case bearer a.n.o.	<i>Coleophora malivorella</i> Riley
Plains false wireworm a.n.o.	<i>Eleodes opaca</i> Say
Plum curculio a.n.o.	<i>Conotrachelus nemuphar</i> Hbst.
Plum gouger a.n.o.	<i>Anthonomus scutellaris</i> Lec.

Folk-wasp-moth	Syntomeida epilais Walk.
Poplar borer a.n.o.	Saperda calcarata Say
Potato aphid a.n.o.	Illinoia solanifolii Ashm.
Potato flea beetle a.n.o.	Epitrix cucumeris Harr.
Potato leafhopper	Empoasca fabae Harr.
Potato psyllid	Paratrioza cockerelli Sulc.
Potato stalk borer a.n.o.	Trichobaris trinotata Say
Potato tuber worm a.n.o.	Phthorimaea operculella Zell.
Purple mite	Taratetranychus citri McG.
Purple scale a.n.o.	Lepidosaphes beckii Newm.
Queensland mite	Tarsonemus ananas Tryon
Quince curculio a.n.o.	Conotrachelus crataegi Walsh
Raspberry cane borer a.n.o.	Oberea bimaculata Oliv.
Raspberry fruit worm a.n.o.	Byturus unicolor Say
Raspberry root borer a.n.o.	Bembecia marginata Harr.
Rat mite	Liponyssus bacoti Hirst
Red-banded leaf roller	Eulia velutinana Walk.
Red-headed flea beetle	Systema pallicornis Schiff.
Red-headed pine sawfly a.n.o.	Neodiprion lecontei Fitch
Red-shouldered shot-hole borer	Xylobiops basilaris Say
Red spider	Tetranychus telarius L.
Rhubarb curculio a.n.o.	Lixus concavus Say
Rice stalk borer	Chilo plejadellus Zinck.
Rice water weevil a.n.o.	Lissorhoptrus simplex Say
Rice weevil a.n.o.	Calendra oryzae L.
Ring-legged earwig a.n.o.	Anisotabis annulipes Lucas
Rose chafer a.n.o.	Macroductylus subspinosus Fab.
Rose curculio a.n.o.	Rhynchites bicolor Fab.
Rose leaf beetle	Nodonota puncticollis Say
Rose sawfly a.n.o.	Caliroa aethiops Fab.
Rose stem girdler	Agrilus viridis L.
Rose stem sawfly	Adirus trimaculatus Say
Rosy apple aphid a.n.o.	Amuraphis roseus Baker
Round-headed apple tree borer a.n.o.	Saperda candida Fab.
Rusty plum aphid a.n.o.	Hysteronura setariae Thos.
Saddled prominent	Heterocampa guttivitta Walk.
San Jose scale a.n.o.	Aspidiotus perniciosus Comst.
Satin moth a.n.o.	Stilpnotia salicis L.
Scotch pine lecanium	Toumeyella mumismaticum P. & McD.
Scurfy scale a.n.o.	Cnionaspis furfura Fitch
Seed corn beetle	Agonoderus pallipes Fab.
Seed corn maggot a.n.o.	Hylemyia cilicrura Rond.
Sheep tick a.n.o.	Melophagus ovinus L.
Short-tailed cricket	Anurogryllus muticus DeG.
Shot-hole borer a.n.o.	Scolytus rugulosus Ratz.
Silverfish a.n.o.	Lepisma saccharina L.
Six-spotted mite	Tetranychus sexmaculatus Riley
Small green rose aphid	Myzaphis rosarum Walk.
Snowy tree cricket a.n.o.	Cecanthus niveus DeG.
Soft scale a.n.o.	Coccus hesperidum L.
Southern cabbage worm a.n.o.	Pieris protodice B. & L.

Southern corn leaf beetle	<i>Myochrous denticollis</i> Lec.
Southern corn stalk borer a.n.o.	<i>Diatraea zeacolella</i> Dyar
Southern green stink bug a.n.o.	<i>Nezara viridula</i> L.
Southern pine beetle a.n.o.	<i>Dendroctonus frontalis</i> Zimm.
Southern pine weevil	<i>Pissodes nemorensis</i> Germ.
<i>Spiraea</i> aphid .	
See Citrus aphid	
Spotted cucumber beetle a.n.o.	<i>Diabrotica duodecimpunctata</i> Fab.
Spring canker worm a.n.o.	<i>Paleacrita vernata</i> Peck
Spruce aphid a.n.o.	<i>Aphis abietina</i> Walk.
Spruce budworm a.n.o.	<i>Harmoloba funiferana</i> Clem.
Spruce gall aphid	<i>Chermes abietis</i> L.
Spruce leaf miner	<i>Recurvaria piceaella</i> Kearf.
Spruce needle miner	<i>Epinotia nanana</i> Treit.
Spruce sawfly a.n.o.	<i>Noodiprion abietis</i> Harr.
Squash beetle a.n.o.	<i>Epilachna borealis</i> Fab.
Squash bug a.n.o.	<i>Anasa tristis</i> DeG.
Stable fly a.n.o.	<i>Stomoxys calcitrans</i> L.
Stalk borer a.n.o.	<i>Papaipema nebris nitela</i> Guen.
Strawberry crown moth a.n.o.	<i>Aegeria rutilans</i> Hy. Edw.
Strawberry leaf beetle	<i>Haltica litigata</i> Fall
Strawberry leaf roller a.n.o.	<i>Ancyliis comptana</i> Froel.
Strawberry root aphid a.n.o.	<i>Aphis forbesi</i> Weed
Strawberry root weevil	<i>Brachyrhinus ovatus</i> L.
Strawberry root worm a.n.o.	<i>Paria canella</i> Fab.
Strawberry weevil a.n.o.	<i>Anthonomus signatus</i> Say
Striped cucumber beetle a.n.o.	<i>Diabrotica vittata</i> Fab.
Striped flea beetle	<i>Phyllotreta vittata</i> Fab.
Sugar beet root maggot	<i>Tetanops aldrichi</i> Hndel
Sugarcane beetle a.n.o.	<i>Eutheola rugiceps</i> Lec.
Sugarcane borer a.n.o.	<i>Diatraea saccharalis</i> Fab.
Sugarcane leafhopper	<i>Perkinsiella saccharicida</i> Kirk.
Sugarcane weevil	<i>Rhabdocnemis obscura</i> Boisd.
Sugar-maple borer a.n.o.	<i>Glycobius speciosus</i> Say
Sweet-potato sawfly	<i>Sterictiphora collaris</i> Say
Sweet-potato sphinx	<i>Herse cingulata</i> Fab.
Sweet-potato weevil a.n.o.	<i>Cylas formicarius</i> Fab.
Tamarisk scale	<i>Chionaspis etrusca</i> Leon.
Tan bark borer	<i>Phymatodes variabilis</i> L.
Tarnished plant bug a.n.o.	<i>Lygus pratensis</i> L.
Terrapin scale a.n.o.	<i>Eulecanium nigrofasciatum</i> Perg.
Three-cornered alfalfa hopper	<i>Stictocephala festina</i> Say
Tobacco budworm	<i>Chloridea virescens</i> Fab.
Tobacco flea beetle a.n.o.	<i>Epitrix parvula</i> Fab.
Tobacco thrips	<i>Frankliniella fusca</i> Hinds
Tobacco worm a.n.o.	<i>Protoparce quinquenaculata</i> Haw.
Tomato suckfly	<i>Dicyphus minimus</i> Uhler
Tomato worm a.n.o.	<i>Protoparce sexta</i> Johan.
Tulip tree scale	<i>Toumeyella liriodendri</i> Gmel.
Turnip aphid a.n.o.	<i>Rhopalosiphum pseudobrassicæ</i> Davis
Twig girdler a.n.o.	<i>Onicideres cingulata</i> Say
Two-lined chestnut borer a.n.o.	<i>Agrilus bilineatus</i> Weber
Two-lined prominent	<i>Heterocampa bilineata</i> Pack.

Vegetable weevil a.n.o.	<i>Listroderes obliquus</i> Gyll.
Velvetbean caterpillar a.n.o.	<i>Anticarsia gemmatilis</i> Hbn.
Walnut caterpillar a.n.o.	<i>Datana integerrima</i> G. & R.
Walnut husk fly a.n.o.	<i>Rhagoletis juglandis</i> Cress.
Walnut scale a.n.o.	<i>Aspidiotus juglans-regiae</i> Comst.
Webbing clothes moth a.n.o.	<i>Tineola biselliella</i> Hum.
Western hen flea	<i>Ceratophyllus niger</i> Fox
Western spotted cucumber beetle a.n.o..	<i>Diabrotica soror</i> Lec.
Western tent caterpillar a.n.o.	<i>Malacosoma pluvialis</i> Dvar
Wheat joint worm a.n.o.	<i>Harmolita tritici</i> Fitch
Wheat stem maggot a.n.o.	<i>Meromyza americana</i> Fitch
Wheat stem sawfly a.n.o.	<i>Cephus cinctus</i> Nort.
Wheat straw worm a.n.o.	<i>Harmolita grandis</i> Riley
White-lined sphinx a.n.o.	<i>Celerio lineata</i> Fab.
White-marked spider beetle a.n.o.	<i>Ptinus fur</i> L.
White-marked tussock moth a.n.o.	<i>Hemerocampa leucostigma</i> S. & A.
White mussel scale	<i>Lepidosaphes alba</i> Ckll.
White peach scale a.n.o.	<i>Aulacaspis pentagona</i> Targ.
White-pine weevil a.n.o.	<i>Pissodes strobi</i> Peck
Willow curculio	<i>Cryptorhynchus lapathi</i> L.
Woolly alder aphid a.n.o.	<i>Prociphilus tessellatus</i> Fitch
Woolly apple aphid a.n.o.	<i>Eriosoma lanigerum</i> Hausm.
Woolly elm aphid a.n.o.	<i>Eriosoma americanum</i> Riley
Woolly pine aphid	<i>Chermes pinifoliae</i> Fitch
Yellow-necked caterpillar a.n.o.	<i>Datana ministra</i> Drury

